

This document provides pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a minor, municipal permit. The discharge results from the operation of a 0.0075 MGD wastewater treatment plant. This permit action consists of updating the proposed effluent limits to reflect the current Virginia WQS (effective 6 January 2011) and updating permit language as appropriate. The effluent limitations and special conditions contained within this permit will maintain the Water Quality Standards of 9VAC25-260 et seq.

1. Facility Name and Mailing Address: Evergreen Country Club  
P.O. Box 176  
Haymarket, VA 22069  
SIC Code: 4952 WWTP  
Facility Location: East side of SR 600, approximately 1.5 miles south of SR 701  
County: Prince William  
Facility Contact Name: Bryan Dolieslager / Club Manager  
Telephone Number: 703-754-4125
2. Permit No.: VA0087891  
Expiration Date: 23 June 2013  
Other VPDES Permits: Not Applicable  
Other Permits: Petroleum underground storage tank registration ID 3016371  
E2/E3/E4 Status: Not Applicable
3. Owner Name: Evergreen Country Club  
Owner Contact/Title: Bryan Dolieslager / Club Manager  
Telephone Number: 703-754-4125
4. Application Complete Date: 21 December 2012  
Permit Drafted By: Douglas Frasier  
Date Drafted: 25 March 2013  
Draft Permit Reviewed By: Alison Thompson  
Date Reviewed: 4 April 2013  
WPM Review By: Bryant Thomas  
Date Reviewed: 11 April 2013  
Public Comment Period: Start Date: 23 May 2013  
End Date: 21 June 2013
5. Receiving Waters Information: See **Attachment 1** for the Flow Frequency Determination.  
Receiving Stream Name: Chestnut Lick, UT  
Stream Code: 1aXIE  
Drainage Area at Outfall: 0.83 square miles  
River Mile: 0.78  
Stream Basin: Potomac River  
Subbasin: Potomac River  
Section: 7a  
Stream Class: III  
Special Standards: g  
Waterbody ID: VAN-A21R  
7Q10 Low Flow: 0.0 MGD  
7Q10 High Flow: 0.0 MGD  
1Q10 Low Flow: 0.0 MGD  
1Q10 High Flow: 0.0 MGD  
30Q10 Low Flow: 0.0 MGD  
30Q10 High Flow: 0.0 MGD  
Harmonic Mean Flow: 0.0 MGD  
30Q5 Flow: 0.0 MGD
6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:
 

<u>✓</u> State Water Control Law <u>✓</u> Clean Water Act <u>✓</u> VPDES Permit Regulation <u>✓</u> EPA NPDES Regulation	<u>        </u> EPA Guidelines <u>✓</u> Water Quality Standards <u>✓</u> Other: Occoquan Policy 9VAC25-410 et seq.
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7. Licensed Operator Requirements: Class III
8. Reliability Class: Class I

**9. Permit Characterization:**

<input checked="" type="checkbox"/> Private	<input checked="" type="checkbox"/> Effluent Limited	<input type="checkbox"/> Possible Interstate Effect
<input type="checkbox"/> Federal	<input checked="" type="checkbox"/> Water Quality Limited	<input type="checkbox"/> Compliance Schedule Required
<input type="checkbox"/> State	<input type="checkbox"/> Toxics Monitoring Program Required	<input type="checkbox"/> Interim Limits in Permit
<input type="checkbox"/> POTW	<input type="checkbox"/> Pretreatment Program Required	<input type="checkbox"/> Interim Limits in Other Document
<input checked="" type="checkbox"/> TMDL		

**10. Wastewater Sources and Treatment Description:**

The current system came online in July 2007, consisting of a Sequencing Batch Reactor (SBR) package plant. Influent is pumped via grinder pump station to an 8,000 gallon equalization tank. The wastewater is then transferred to one of two batch reactors resulting in biological treatment for BOD and ammonia removal via aeration, solids settling and decanting sequences. The decant flows via gravity to an effluent holding tank prior to being transferred to an upflow, deep bed, granular media filter. Disinfection is accomplished by one of two ultraviolet units followed by post aeration prior to discharging to the receiving stream.

See **Attachment 2** for a facility schematic/diagram.

TABLE 1 OUTFALL DESCRIPTION				
Number	Discharge Sources	Treatment	Design Flow	Latitude/Longitude
001	Domestic wastewater	See Item 10 above.	0.0075 MGD	38° 52' 58" / 77° 39' 27"
See <b>Attachment 3</b> for the Middleburg topographic map.				

**11. Sludge Treatment and Disposal Methods:**

Wasted sludge is transferred to an aerated holding tank. A contractor, currently Advantage Septic Service, pumps out the holding tank as needed and the sludge is hauled to the Upper Occoquan Service Authority (VA0024988) for further treatment and final disposal. This plant generates approximately 2.86 dry metric tons per year. This amount represents three (3) times more than that reported during last reissuance due to the decommissioning of the lagoon where the solids remained within the system and replacing the treatment with a SBR package plant in which the solids are wasted and removed.

**12. Discharges Located Within Waterbody VAN-A21R:**

TABLE 2 IDENTIFIED DISCHARGES			
Permit Number	Facility Name	Type	Receiving Stream
VA0087858	Sunoco – Manassas Terminal	Industrial Discharge Individual Permit	Bull Run, UT
VA0085901	IBM Corporation		Flat Branch, UT
VAR051084	MIFCO – Manassas Ice and Fuel Company	Stormwater Industrial General Permit	Flat Branch, UT
VAR051033	YRC Incorporated		Canon Branch, UT
VAR051744	Colonial Pipeline – Bull Run		Bull Run, UT
VAR050995	Manassas City – Department of Public Works		Flat Branch, UT
VAR051011	Superior Paving Corporation – Centreville		Bull Run, UT
VAG110074	Titan Virginia Ready Mix LLC – Centreville	Ready-Mix Concrete General Permit	Bull Run, UT
VAG110100	Virginia Concrete Company Inc. – Gainesville		Rocky Branch, UT
VAG110070	Aggregate Industries MAR – Manassas		Youngs Branch

TABLE 2 (continued)			
Permit Number	Facility Name	Type	Receiving Stream
VAG406133	Leet Residence	Small Municipal ≤ 1,000 gpd General Permit	Little Bull Run, UT
VAG406078	Mullins Residence		Occoquan River, UT
VAG406094	Hunter Residence		Bull Run, UT
VAG406209	Evergreen Center		Chestnut Lick, UT
VAG406242	Lake Jackson Drive Community		Cabin Branch, UT
VAG406272	Cook Residence		Bull Run, UT
VAG406273	Casson Residence		Bull Run, UT
VAG406157	Thaggard Residence		Broad Run, UT
VAG406162	Darne Residence		Chestnut Lick, UT
VAG406165	Neal Residence		Little Bull Run, UT
VAG406109	Sudley United Methodist Church		Little Bull Run
VAG406009	Carrington Residence		Chestnut Lick, UT
VAG406315	Shaw Residence		Black Branch, UT
VAG406329	Oviatt Residence		Bull Run, UT
VAG406367	Nason Residence		Youngs Branch, UT
VAG406406	Galleher Residence		Chestnut Lick, UT
VAG406410	Streufert Residence		Bull Run, UT
VAG406295	Gutenson Residence		Bull Run, UT
VAG406435	Air Tech Solutions Residence		Little Bull Run, UT
VAG406475	Siddiqui Residence		Bull Run Creek
VAG406461	Deutsch Residence		Lick Branch, UT
VAG406467	Neely Residence		Bull Run, UT
VAG406281	Boggs Residence		Chestnut Lick, UT
VAG406481	Sudley Nursery and Garden Center		Bull Run
VAG406300	Pumphrey Residence		Bull Run, UT
VAG406411	Warren Residence		Chestnut Lick, UT
VAG406330	Hall Residence		Bull Run, UT
VAG406065	Katsaris Residence		Little Bull Run, UT
VAG406240	Evergreen Volunteer Fire Department		Chestnut Lick, UT
VAG406236	Gmitter Residence		Bull Run, UT
VAG406099	Cole Residence		Bull Run, UT
VAG406494	Thompson Residence		Chestnut Lick, UT
VAG406230	Regis Residence		Chestnut Lick, UT
VAG406076	Tinder Residence		Chestnut Lick, UT
VAG840089	Luck Stone – Bull Run	Non Metallic Mineral Mining General Permit	Bull Run, UT

13. **Material Storage:** There are no chemicals stored on site.
14. **Site Inspection:** Performed by DEQ-NRO Compliance staff on 19 January 2012 (see **Attachment 4**).
15. **Receiving Stream Water Quality and Water Quality Standards:**

a. Ambient Water Quality Data

There is no monitoring data for the receiving stream, an Unnamed Tributary to Chestnut Lick. The nearest downstream DEQ monitoring station is Station 1aBUL025.94 which is located on Bull Run at the Route 705 bridge crossing. Chestnut Lick is a tributary to Bull Run. Station 1aBUL025.94 is located approximately 5.8 rivermiles downstream from the outfall. The following is the water quality summary for this portion of Bull Run as taken from the Draft 2012 Integrated Assessment\*:

- *E. coli* monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use. This impairment is nested within the downstream completed bacteria TMDL for the Occoquan River watershed.
- The aquatic life and wildlife uses are considered fully supporting.
- The fish consumption use was not assessed.

\*Virginia's Draft 2012 Integrated Report (IR) has been through the public comment period and reviewed by EPA. The 2012 IR is currently awaiting final approval.

b. 303(d) Listed Stream Segments and Total Maximum Daily Loads (TMDLs)

Table 3 Information on Downstream 303(d) Impairments and TMDLs						
Waterbody Name	Impaired Use	Cause	Distance From Outfall	TMDL completed	WLA	Basis for WLA (at design flow)
<i>Impairment Information in the Draft 2012 Integrated Report*</i>						
Bull Run	Aquatic Life	Benthic Macroinvertebrates (Sediment)	19.6 miles	Yes -- 2006	0.2 tons/yr sediment	TSS: 15 mg/L
	Recreation	<i>E. coli</i>	5.12 miles	Yes -- 2006	1.35E+10 cfu/year	126 cfu/100mL
	Fish Consumption	PCBs in Fish Tissue	16.86 miles	No -- 2017	NA	NA

\*Virginia's Draft 2012 Integrated Report (IR) has been through the public comment period and reviewed by EPA. The 2012 IR is currently awaiting final approval.

The full planning statement is found in **Attachment 5**.

c. Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, Chestnut Lick, UT, is located within Section 7a of the Potomac River Basin and classified as Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32° C and maintain a pH of 6.0 – 9.0 standard units (S.U.).

**Attachment 6** details other water quality criteria applicable to the receiving stream.

Ammonia:

The fresh water, aquatic life Water Quality Criteria for ammonia is dependent on the instream temperature and pH. The critical 30Q10 flow of the receiving stream is 0.0 MGD. In cases such as this, effluent pH and temperature data may be used to establish the ammonia water quality standard. The 90<sup>th</sup> percentile pH values are used because they best represent the critical conditions of the receiving stream. Since effluent temperature data was not readily available, a default temperature value of 25° C for summer and an assumed value of 15° C for winter were utilized.

See **Attachment 7** for the derivation of the 90<sup>th</sup> percentile values of the effluent pH data from July 2008 to January 2013 and **Attachment 6** for the subsequent Water Quality Criteria.

Metals Criteria:

The Water Quality Criteria for some metals are dependent on the receiving stream and/or the effluent hardness values (expressed as mg/L calcium carbonate). However, there is no hardness data for this facility and there is no ambient data available since the critical 7Q10 flow of the receiving stream is zero. Staff guidance suggests using a default hardness value of 50 mg/L CaCO<sub>3</sub> for streams east of the Blue Ridge.

The hardness-dependent metals criteria shown in **Attachment 6** are based on this average value.

Bacteria Criteria:

The Virginia Water Quality Standards at 9VAC25-260-170.A state that the following criteria shall apply to protect primary recreational uses in surface waters:

*E. coli* bacteria per 100 mL of water shall not exceed a monthly geometric mean of the following:

	Geometric Mean <sup>1</sup>
Freshwater <i>E. coli</i> (N/100 mL)	126

<sup>1</sup>For a minimum of four weekly samples taken during any calendar month

d. Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Chestnut Lick, UT, is located within Section 7a of the Potomac River Basin. This section has been designated with a special standard of "g".

Special Standard "g" refers to the Occoquan Watershed policy (9VAC25-410). The regulation sets stringent treatment and discharge requirements in order to improve and protect water quality, particularly since the waters are an important water supply for Northern Virginia. The regulation generally prohibits new sewage treatment plants and only allows minor industrial discharges.

This policy is not applicable to this discharge since it is an existing facility, it is not expanding and there is no public sewer available to connect.

e. Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched on 7 March 2013 for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened and endangered species were identified within a 2 mile radius of the discharge: Atlantic sturgeon; dwarf Wedgemussel; brook floater; wood turtle; upland sandpiper; loggerhead shrike; Henslow's sparrow; green floater; and migrant loggerhead shrike. The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and protect the threatened and endangered species found near the discharge.

**16. Antidegradation (9VAC25-260-30):**

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream has been classified as Tier 1 based on the determination that the critical 7Q10, 30Q10 and 1Q10 flows for the stream are zero and the noted downstream benthic impairment. It is staff's best professional judgment that such streams are Tier 1. The proposed permit limits have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

**17. Effluent Screening, Wasteload Allocation and Effluent Limitation Development:**

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points are equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLAs) are calculated. In this case since the critical 7Q10, 30Q10 and 1Q10 flows have been determined to be zero, the WLAs are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are based on the most limiting WLA, the required sampling frequency and statistical characteristics of the effluent data.

**a. Effluent Screening**

Effluent data obtained from the July 2008 – January 2013 Discharge Monitoring Reports (DMRs) has been reviewed and determined to be suitable for evaluation. Please see **Attachment 8** for a summary of effluent data.

**b. Mixing Zones and Wasteload Allocations (WLAs)**

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f)(Q_s)] - [(C_s)(f)(Q_s)]}{Q_e}$$

Where:

WLA	=	Wasteload allocation
C <sub>o</sub>	=	In-stream water quality criteria
Q <sub>e</sub>	=	Design flow
Q <sub>s</sub>	=	Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; 30Q10 for ammonia criteria; and 30Q5 for non-carcinogen human health criteria)
f	=	Decimal fraction of critical flow
C <sub>s</sub>	=	Mean background concentration of parameter in the receiving stream.

The water segment receiving the discharge via Outfall 001 is considered to have a 7Q10, 30Q10 and 1Q10 of 0.0 MGD. As such, there is no mixing zone and the WLA is equal to the C<sub>o</sub>.

**c. Effluent Limitations and Monitoring, Outfall 001 – Toxic Pollutants**

9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9VAC25-31-230.D. requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1). Ammonia as N/TKN:

A Total Kjeldahl Nitrogen (TKN) limitation of 5.0 mg/L was established in 1992. This limit was based on the sum of a calculated ammonia limit (approximately 2 mg/L) and a refractory organic concentration of 3 mg/L. The refractory portion assumes that ammonia is removed and that the remaining nitrogen is in the form of refractory organic compounds that will not be easily oxidized. Staff utilized the July 2008 – January 2013 effluent pH and default temperature data to reevaluate the current ammonia water quality criteria in Section 15.c. of this Fact Sheet and to calculate subsequent limitations (**Attachment 9**). The results indicate that the current TKN limitation is appropriate and still protective of water quality.

This facility will be given a year round TKN limit of 5.0 mg/L. The weekly average limit will be 7.5 mg/L based on a multiplier of 1.5 times the monthly average.

2). Total Residual Chlorine:

Chlorine is not utilized for disinfection at this facility; therefore, total residual chlorine limitation derivation is not warranted since chlorine is not expected to be present in appreciable amounts.

3). Metals/Organics:

Based on the source of the wastewater, it is staff's best professional judgement that limits are not warranted.

d. Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

No changes to dissolved oxygen (D.O.), carbonaceous-biochemical oxygen demand-5 day (cBOD<sub>5</sub>), total suspended solids (TSS), total kjeldahl nitrogen (TKN) and pH limitations are proposed.

Dissolved oxygen and cBOD<sub>5</sub> limitations are based on the stream modeling conducted in July 1992 (**Attachment 10**) and are set to meet the water quality criteria for D.O. in the receiving stream. Staff re-verified the results obtained in 1992 during this reissuance to ensure that water quality is still being maintained (**Attachment 11**).

pH limitations are set at the water quality criteria.

*E. coli* limitations are in accordance with the Water Quality Standards 9VAC25-260-170 and the Occoquan River Watershed TMDL.

e. Effluent Limitations and Monitoring Summary

The effluent limitations are presented in the following table. Limits were established for pH, cBOD<sub>5</sub>, total suspended solids, dissolved oxygen, total kjeldahl nitrogen and *E. coli*.

The limit for total suspended solids is based on Best Professional Judgement and the Bull Run TMDL.

The mass loading (kg/d) for cBOD<sub>5</sub>, TSS and TKN monthly and weekly averages were calculated by multiplying the concentration values (mg/L), with the flow values (in MGD) and then by a conversion factor of 3.785.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

The VPDES Permit Regulation at 9VAC25-31-30 and 40 CFR Part 133 require that the facility achieve at least 85% removal for cBOD and TSS (or 65% for equivalent to secondary). The limits in this permit are water quality-based effluent limits and result in greater than 85% removal.

18. **Antibacksliding:**

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

**19. Effluent Limitations/Monitoring Requirements:**

Design flow is 0.0075 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
		Monthly Average		Weekly Average		Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL		NA		NA	NL	1/D	Estimate
pH	3	NA		NA		6.0 S.U.	9.0 S.U.	1/D	Grab
cBOD <sub>5</sub>	3,5	10 mg/L	0.28 kg/day	15 mg/L	0.43 kg/day	NA	NA	1/M	Grab
Total Suspended Solids (TSS)	2,4	15 mg/L	0.42 kg/day	22 mg/L	0.62 kg/day	NA	NA	1/M	Grab
Dissolved Oxygen (DO)	3,5	NA		NA		6.5 mg/L	NA	1/D	Grab
Total Kjeldahl Nitrogen (TKN)	3	5.0 mg/L	0.14 kg/day	7.5 mg/L	0.21 kg/day	NA	NA	1/M	Grab
<i>E. coli</i> (Geometric Mean)*	3,4	126 n/100mL		NA		NA	NA	1/W	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements

MGD = Million gallons per day.

1/D = Once every day.

2. Best Professional Judgement

NA = Not applicable.

1/W = Once every week.

3. Water Quality Standards

NL = No limit; monitor and report.

1/M = Once every month.

4. TMDL Wasteload Allocation (Section 15.b.)

S.U. = Standard units.

5. Stream Model – Attachment 10/11

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

\*Samples shall be collected between the hours of 10 A.M. and 4 P.M.



**20. Other Permit Requirements:**Part I.B. of the permit contains quantification levels and compliance reporting instructions

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an instream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

**21. Other Special Conditions:**

- a. 95% Capacity Reopener. The VPDES Permit Regulation at 9VAC25-31-200.B.4 requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of any three consecutive month period. This facility is a PVOTW.
- b. Indirect Dischargers. Required by VPDES Permit Regulation, 9VAC25-31-200.B.1 and B.2 for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.
- c. O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790; VPDES Permit Regulation, 9VAC25-31-190.E. The permittee shall maintain a current Operations and Maintenance (O&M) Manual. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M Manual available to Department personnel for review upon request. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.
- d. CTC, CTO Requirement. The Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790 requires that all treatment works treating wastewater obtain a Certificate to Construct prior to commencing construction and to obtain a Certificate to Operate prior to commencing operation of the treatment works.
- e. Licensed Operator Requirement. The Code of Virginia at §54.1-2300 et seq. and the VPDES Permit Regulation at 9VAC25-31-200.C, and Rules and Regulations for Waterworks and Wastewater Works Operators (18VAC160-20-10 et seq.) requires licensure of operators. This facility requires a Class III operator.
- f. Reliability Class. The Sewage Collection and Treatment Regulations at 9VAC25-790 require sewage treatment works to achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. Reliability means a measure of the ability of the treatment works to perform its designated function without failure or interruption of service. The facility is required to meet a reliability Class of I. This is based on the Virginia Department of Health recommendation due to downstream public wells and the Occoquan Policy (9VAC25-410).
- g. Sludge Reopener. The VPDES Permit Regulation at 9VAC25-31-220.C. requires all permits issued to treatment works treating domestic sewage (including sludge-only facilities) include a reopener clause allowing incorporation of any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the CWA. The facility includes a sewage treatment works.
- h. Sludge Use and Disposal. The VPDES Permit Regulation at 9VAC25-31-100.P; 220.B.2., and 420 through 720 and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. The facility includes a treatment works treating domestic sewage.
- i. Occoquan Watershed Policy. The Policy states that the permittee shall eliminate the discharge from this facility by connecting to public sewer within one hundred eighty (180) days of the date public sewerage facilities become available.
- j. TMDL Reopener. This special condition allows the permit to be reopened if necessary to bring it into compliance with any applicable TMDL that may be developed and approved for the receiving stream.

22. Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

**23. Changes to the Permit from the Previously Issued Permit:****a. Special Conditions:**

- Removed the Treatment Works Closure Plan special condition since plant was upgraded and lagoon closure was completed during the last permit term.

**b. Monitoring and Effluent Limitations: Not Applicable****24. Variances/Alternate Limits or Conditions: Not Applicable****25. Public Notice Information:**

First Public Notice Date: 22 May 2013

Second Public Notice Date: 29 May 2013

Public Notice Information is required by 9VAC25-31-280.B. All pertinent information is on file and may be inspected, and copied by contacting the: DEQ Northern Regional Office; 13901 Crown Court, Woodbridge, VA 22193; Telephone No. (703) 583-3873; Douglas.Frasier@deq.virginia.gov. See **Attachment 12** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

**26. Additional Comments:****Previous Board Action(s):**

This facility entered two Consent Orders due to limitation excursions. The first Order resulted in a plant upgrade (**Attachment 13**) and the second focused on plant start up and hydraulic overloading issues (**Attachment 14**).

The first Consent Order was terminated on 6 April 2009 and the second on 19 October 2012.

**Staff Comments:**

No comments were received.

**Public Comment:**

No comments were received during the public notice.

**EPA Checklist:**

The checklist can be found in **Attachment 15**.

# Fact Sheet Attachments

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Evergreen Country Club  
VA0087891  
2013 Reissuance

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## MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION  
 Water Quality Assessments and Planning  
 629 E. Main Street P.O. Box 10009 Richmond, Virginia 23240

SUBJECT: Flow Frequency Determination  
 Evergreen Country Club STP - VA#0087891

TO: James Engbert, ENRO

FROM: Paul E. Herman, P.E., WQAP *Paul*

DATE: February 4, 1998

COPIES: Ron Gregory, Charles Martin, File

The Evergreen Country Club STP discharges to an unnamed tributary to the Chestnut Lick near Catharpin, VA. Stream flow frequencies are required at this site for use by the permit writer in developing effluent limitations for the VPDES permit.

The VDEQ operated a continuous record gage on the Bull Run near Catharpin, VA (#01656725) from 1969 to 1986. The gage was located downstream of the discharge point at the Route 705 bridge in Prince William County, VA. The flow frequencies for the gage and the discharge point are presented below. The values at the discharge point were determined by drainage area proportions and do not address any withdrawals, discharges, or springs lying upstream.

**Bull Run near Catharpin, VA (#01656725):**

Drainage Area = 25.8 mi<sup>2</sup>

1Q10 = 0.0 cfs	High Flow 1Q10 = not contiguous
7Q10 = 0.0 cfs	High Flow 7Q10 = not contiguous
30Q5 = 0.06 cfs	HM = 0.0 cfs

**UT to Chestnut Lick at discharge point:**

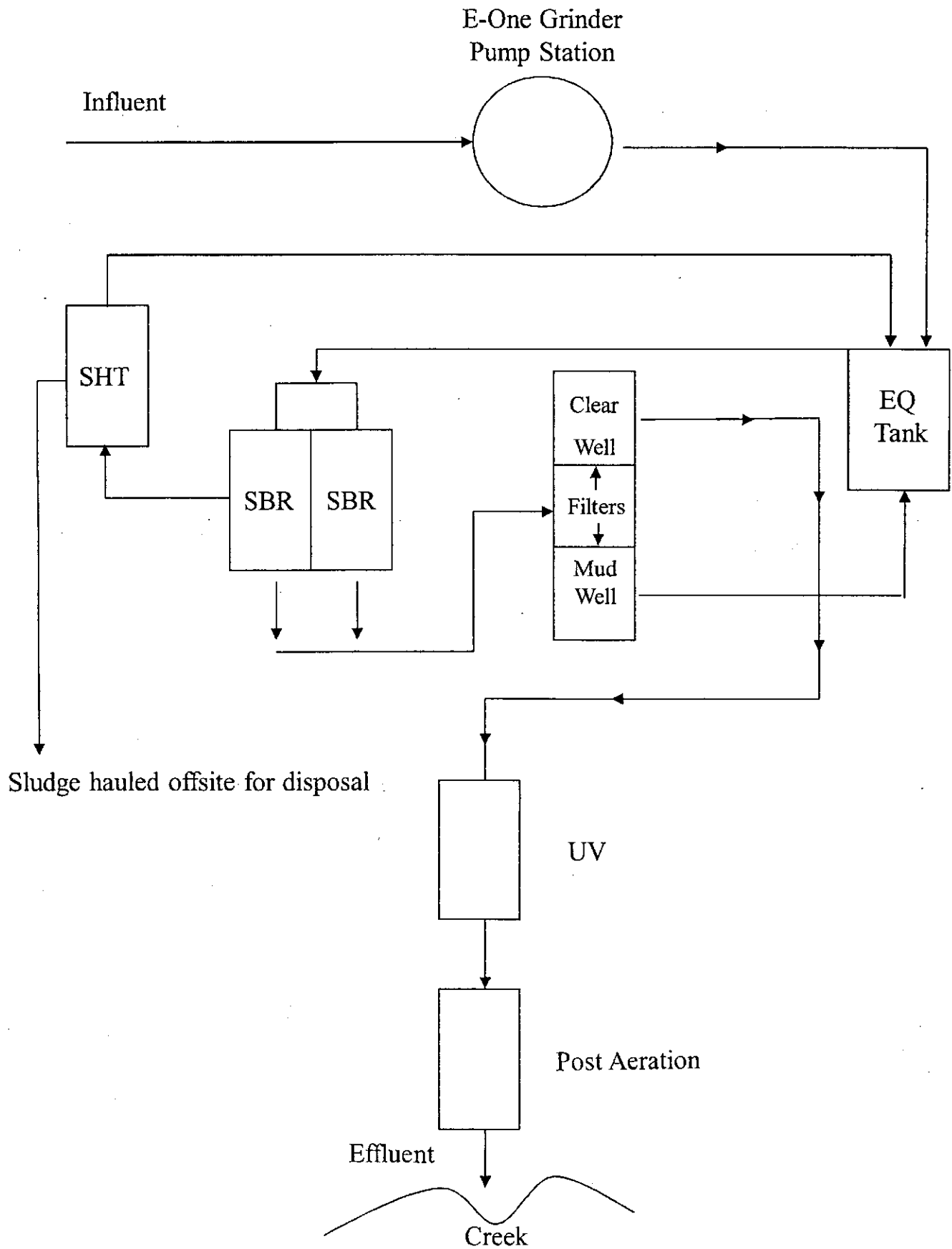
Drainage Area = 0.83 mi<sup>2</sup>

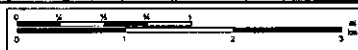
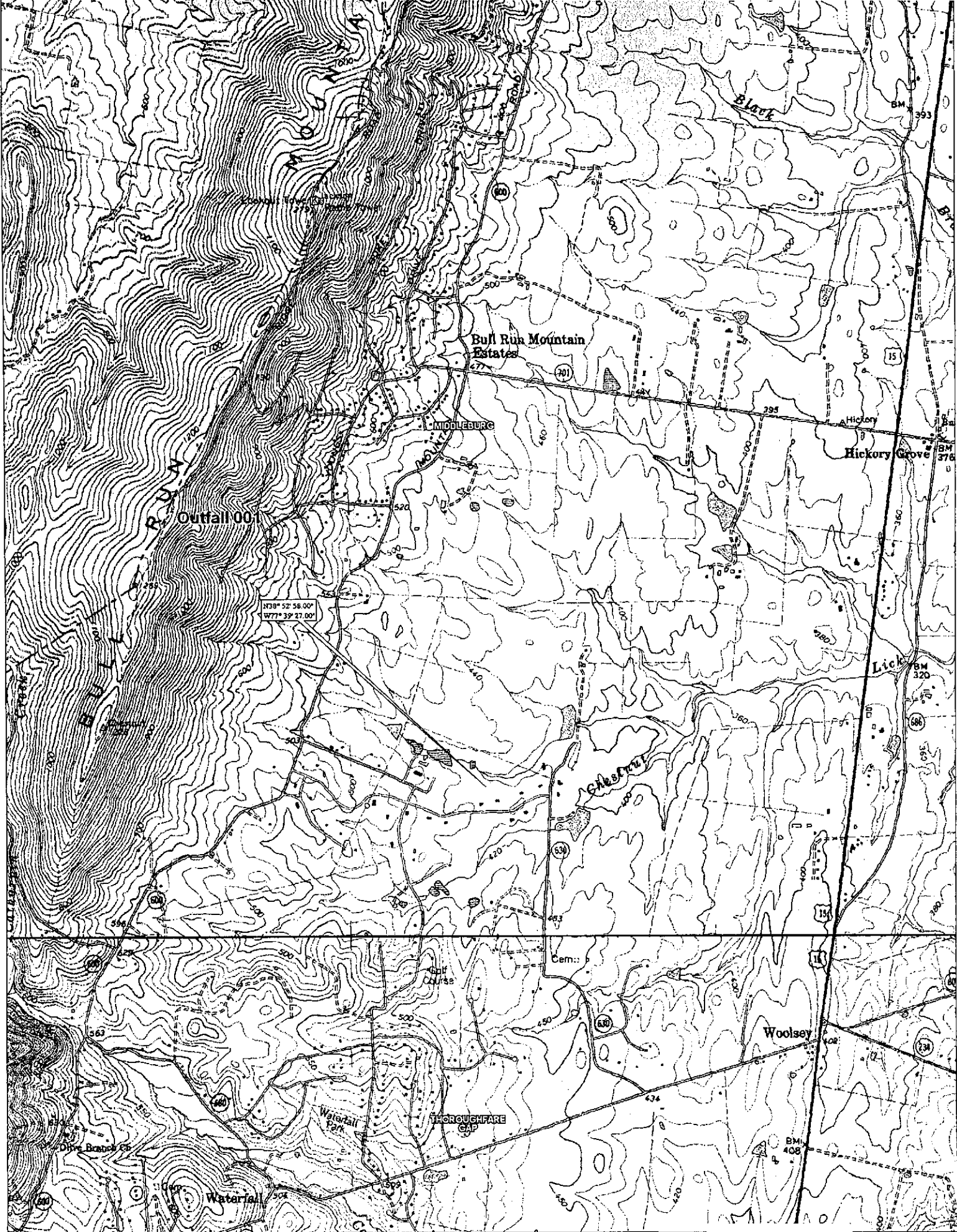
1Q10 = 0.0 cfs	High Flow 1Q10 = --- cfs
7Q10 = 0.0 cfs	High Flow 7Q10 = --- cfs
30Q5 = 0.0 cfs	HM = 0.0 cfs

*0 cfs = 0 MGD*

If you have any questions concerning this analysis, please let me know.

## UV System







# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

### NORTHERN REGIONAL OFFICE

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David K. Paylor  
Director

Thomas A. Faha  
Regional Director

February 8, 2012

Mr. Bryan Dolieslager  
Club Manager  
Evergreen Country Club  
P.O. Box 176  
Haymarket, VA 22069

**Re: Evergreen Country Club, Permit # VA0087891**

Dear Mr. Dolieslager:

Attached is a copy of the Inspection Report generated from the Facility Inspection conducted at Evergreen Country Club on January 19, 2012. This letter is not intended as a case decision under the Virginia Administrative Process Act, Va. Code § 2.2-4000 *et seq.* (APA).

Please review the enclosed report and submit in writing adequate documentation of all measures taken (including all necessary supporting documentation) to address the Request for Corrective Action no later than March 8, 2012.

Your response may be sent either via the US Postal Service or electronically, via E-mail. If you choose to send your response electronically, we recommend sending it as an Acrobat PDF or in a Word-compatible, write-protected format. Additional inspections may be conducted to confirm that the facility is in compliance with permit requirements.

If you have any questions or comments concerning this report, please feel free to

contact me at the Northern Regional Office at (703) 583-3882 or by E-mail at Sharon.Allen@deq.virginia.gov.

Sincerely,

Sharon Allen  
Environmental Specialist II

A handwritten signature in black ink that reads "Sharon Allen". The script is cursive and fluid, with the first name "Sharon" and last name "Allen" clearly distinguishable.

cc: Permits / DMR File

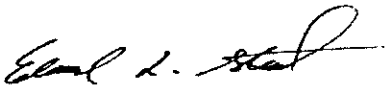
Electronic copy sent:

Compliance Manager, Compliance Auditor, Enforcement – DEQ  
Cody Hoehna, Operations Manager - ESS



# Virginia Department of Environmental Quality

## RECON INSPECTION REPORT

<b>FACILITY NAME:</b> Evergreen Country Club		<b>INSPECTION DATE:</b> January 19, 2012			
		<b>INSPECTOR</b> S. Allen			
<b>PERMIT No.:</b> VA0087891		<b>REPORT DATE:</b> February 7, 2012			
<b>TYPE OF FACILITY:</b>	<input checked="" type="checkbox"/> Municipal	<input type="checkbox"/> Major	<b>TIME OF INSPECTION:</b>	Arrival 1000	Departure 1100
	<input type="checkbox"/> Industrial	<input checked="" type="checkbox"/> Minor			
	<input type="checkbox"/> Federal	<input type="checkbox"/> Small Minor	<b>TOTAL TIME SPENT (including prep &amp; travel)</b>	5 hours	
	<input type="checkbox"/> HP <input type="checkbox"/> LP				
<b>PHOTOGRAPHS:</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<b>UNANNOUNCED INSPECTION?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
<b>REVIEWED BY / Date:</b>   2/8/12					
<b>PRESENT DURING INSPECTION:</b> Max Hughes, Troy Jenkins Jr.- ESS					

### INSPECTION OVERVIEW AND CONDITION OF TREATMENT UNITS

- Weather- partly cloudy, cold.
- I met Mr. Hughes on site, Mr. Jenkins arrived shortly afterward.
- I reviewed the laboratory records and equipment. No problems noted.
- Mr. Hughes and I walked over to the new 15,000 gallon EQ tank. Some site work around the tank still needs to be completed.
- Wastewater is pumped from the influent pump station to the aerated EQ tank based on water level in the pump station.
- The EQ tank is constantly aerated, air is supplied by a blower. There are two pumps to send water to the Sequencing Batch Reactors (SBRs). Pumps are float activated- currently set to turn on when water level at reaches six and off at four ft.
- Water is pumped to the SBRs at five to six gallons per minute.
- The SBRs looked ok- color light brown, some tan foam.
- Media has been removed from filters so engineers could inspect. Next phase is to develop corrections of filters so they will work properly. Water level in filter tanks low. I asked operators if they had noticed change in TSS since media removed- said it was only taken out a week or so ago, no test results back, but visually water looked pretty good.

**INSPECTION OVERVIEW AND CONDITION OF TREATMENT UNITS**

- Bagged filter sand is on site to replace once operators get the OK.
- The clearwell showed evidence of solids in the filter effluent. In an email dated January 31, 2011. Cody Hoehna of ESS explained that staff had installed a "T" on the end of the PVC discharge pipe to prevent the solids/foam from exiting the clearwell. The tank is pumped out using a septic truck on a regular basis.
- One UV bank is in use. The LCD control panel showed Intensity at 2.8 mW/cm<sup>2</sup>, and the bulbs at 47 hours.
- No solids were noted in the post aeration tank or in the effluent stream.
- We walked the effluent stream from the discharge point (Outfall 001) to the junction with the receiving stream (UT to Chestnut Lick). The only problem noted was a large pile of tree limbs that lay in the discharge stream. These should be removed to prevent the effluent from pooling.
- Mr. Jenkins mentioned that the fence around the plant will be extended to include the new EQ tank.

Permit #

VA0087891

## EFFLUENT FIELD DATA: NA

Flow	<input type="text"/> MGD	Dissolved Oxygen	<input type="text"/> mg/L	TRC (Contact Tank)	<input type="text"/> mg/L
pH	<input type="text"/> S.U.	Temperature	<input type="text"/> °C	TRC (Final Effluent)	<input type="text"/> mg/L
Was a Sampling Inspection conducted? <input type="checkbox"/> Yes (see Sampling Inspection Report) <input type="checkbox"/> No					

## CONDITION OF OUTFALL AND EFFLUENT CHARACTERISTICS:

1. Type of outfall:	<input checked="" type="checkbox"/> Shore based	<input type="checkbox"/> Submerged	Diffuser?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
2. Are the outfall and supporting structures in good condition?				<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
3. Final Effluent (evidence of following problems):			<input type="checkbox"/> Sludge bar	<input type="checkbox"/> Grease	
	<input type="checkbox"/> Turbid effluent	<input type="checkbox"/> Visible foam	<input type="checkbox"/> Unusual color	<input type="checkbox"/> Oil sheen	
4. Is there a visible effluent plume in the receiving stream?				<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5. Receiving stream:	<input checked="" type="checkbox"/> No observed problems		<input type="checkbox"/> Indication of problems (explain below)		
<u>Comments:</u>					

## REQUEST for CORRECTIVE ACTION:

1. A section of the fence is missing on the southeast side of the STP. Matt stated that a tree had fallen on the fence and damaged it during the previous winter and the section had been removed but not replaced. A new section is on site and leaning against the fence - just needs to be installed. This section should be replaced ASAP.

## NOTES and COMMENTS:

- o Plant operators have requested clean water be supplied at the STP to be used in plant cleaning. They do have the ability to use plant effluent for this purpose, but when effluent quality is not a higher quality, it does not work well for cleaning. The golf course has recently installed two groundwater wells near the STP - permittee should consider running a line from one of these wells to the STP to supply water.

To: Douglas Frasier  
From: Katie Conaway

Date: January 11, 2013  
Subject: Planning Statement for Evergreen Country Club  
Permit Number: VA0087891

**Information for Outfall 001:**

Discharge Type:	Municipal, Minor
Discharge Flow:	0.0075 MGD
Receiving Stream:	Chestnut Lick, UT
Latitude / Longitude:	38° 52' 58" / 77° 39' 27"
Rivermile:	0.78
Streamcode:	1aXIE
Waterbody:	VAN-A21R
Water Quality Standards:	Class III, Section 7a, special standards g.
Drainage Area:	0.83 mi <sup>2</sup>

1. Please provide water quality monitoring information for the receiving stream segment. If there is not monitoring information for the receiving stream segment, please provide information on the nearest downstream monitoring station, including how far downstream the monitoring station is from the outfall.

There is no monitoring data for the receiving stream, an Unnamed Tributary to Chestnut Lick (XIE). The nearest downstream DEQ monitoring station is Station 1aBUL025.94 which is located on Bull Run at the Route 705 bridge crossing. Chestnut Lick is a tributary to Bull Run. Station 1aBUL025.94 is located approximately 5.8 rivermiles downstream from the outfall of VA0087891. The following is the water quality summary for this portion of Bull Run as taken from the Draft 2012 Integrated Assessment\*:

*Class III, Section 7a, special stds. g.*

*DEQ ambient station 1aBUL025.94, at Route 705.*

*E. coli monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use. This impairment is nested within the downstream completed bacteria TMDL for the Occoquan River watershed.*

*The aquatic life and wildlife uses are considered fully supporting. The fish consumption use was not assessed.*

*\* Virginia's Draft 2012 Integrated Report (IR) has been through the public comment period and reviewed by EPA. The 2012 IR is currently awaiting final approval.*

2. Does this facility discharge to a stream segment on the 303(d) list? If yes, please fill out Table A.

No.

3. Are there any downstream 303(d) listed impairments that are relevant to this discharge? If yes, please fill out Table B.

**Table B. Information on Downstream 303(d) Impairments and TMDLs**

Waterbody Name	Impaired Use	Cause	Distance From Outfall	TMDL completed	WLA	Basis for WLA	TMDL Schedule
<b>Impairment Information in the Draft 2012 Integrated Report*</b>							
Bull Run	Aquatic Life	Benthic Macroinvertebrates: Sediment	19.6 miles	Yes	0.2 tons/year of sediment	TSS: 15 mg/L — Design Flow: .0075 MGD	TMDL Completed in 2006
	Recreation	E. coli	5.12 miles	Yes	1.35E+10 cfu/year	126 cfu/100ml — 0.0075 MGD	TMDL Completed in 2006
	Fish Consumption	PCBs in Fish Tissue	16.86 miles	No	N/A	N/A	2017

\* Virginia's Draft 2012 Integrated Report (IR) has been through the public comment period and reviewed by EPA. The 2012 IR is currently awaiting final approval.

4. Is there monitoring or other conditions that Planning/Assessment needs in the permit?

There is a PCB impairment in a downstream portion of Bull Run. A PCB TMDL is scheduled for development in 2017. DEQ Staff has concluded that low-level PCB monitoring is not warranted for this facility, as it is a small wastewater treatment facility and is unlikely to discharge any PCBs.

There is a completed downstream TMDL for the aquatic life use impairment for the Chesapeake Bay. However, the Bay TMDL and the WLAs contained within the TMDL are not addressed in this planning statement.

5. Fact Sheet Requirements – Please provide information regarding any drinking water intakes located within a 5 mile radius of the discharge point.

There are no public water supply intakes within 5 miles of this facility.

# FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Evergreen Country Club

Permit No.: VA0087891

Receiving Stream: Chestnut Creek, UT

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information			Stream Flows			Mixing Information			Effluent Information		
Parameter	Conc.	Background	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	HH
Mean Hardness (as CaCO <sub>3</sub> ) =	mg/L										50 mg/L
90% Temperature (Annual) =	deg C										25 deg C
90% Temperature (Wet season) =	deg C										15 deg C
90% Maximum pH =	SU										7.5 SU
10% Maximum pH =	SU										6.3 SU
Tier Designation (1 or 2) =	1										0.0075 MGD
Public Water Supply (PWS) Y/N? =	n										
Trout Present Y/N? =	n										
Early Life Stages Present Y/N? =	y										

Parameter	Conc.	Background	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
			Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	HH	Acute	Chronic	HH (PWS)	HH	Chronic	HH (PWS)
Aconaphene	0		-	-	na	9.9E+02	-	-	na	9.9E+02	-	-	-	na	9.9E+02	-	na
Acrolein	0		-	-	na	9.3E+00	-	-	na	9.3E+00	-	-	-	na	9.3E+00	-	na
Acrylonitrile <sup>c</sup>	0		-	-	na	2.5E+00	-	-	na	2.5E+00	-	-	-	na	2.5E+00	-	na
Aldrin <sup>c</sup>	0		-	-	na	5.0E-04	-	-	na	5.0E-04	-	-	-	na	5.0E-04	-	na
Ammonia-N (mg/l)	0		3.0E+00	-	na	3.0E+00	3.0E+00	-	na	3.0E+00	-	-	-	na	3.0E+00	-	na
(Yearly)	0		1.99E+01	2.22E+00	na	-	1.99E+01	2.22E+00	na	-	-	-	-	na	1.99E+01	2.22E+00	na
Ammonia-N (mg/l)	0		1.99E+01	4.23E+00	na	-	1.99E+01	4.23E+00	na	-	-	-	-	na	1.99E+01	4.23E+00	na
(High Flow)	0		-	-	na	4.0E+04	-	-	na	4.0E+04	-	-	-	na	4.0E+04	-	na
Anthracene	0		-	-	na	6.4E+02	-	-	na	6.4E+02	-	-	-	na	6.4E+02	-	na
Antimony	0		-	-	na	1.5E+02	-	-	na	1.5E+02	-	-	-	na	1.5E+02	-	na
Arsenic	0		-	-	na	-	-	-	na	-	-	-	-	na	-	-	na
Barium	0		-	-	na	-	-	-	na	-	-	-	-	na	-	-	na
Benzene <sup>c</sup>	0		-	-	na	5.1E+02	-	-	na	5.1E+02	-	-	-	na	5.1E+02	-	na
Benzidine <sup>c</sup>	0		-	-	na	2.0E-03	-	-	na	2.0E-03	-	-	-	na	2.0E-03	-	na
Benzo (a) anthracene <sup>c</sup>	0		-	-	na	1.8E-01	-	-	na	1.8E-01	-	-	-	na	1.8E-01	-	na
Benzo (b) fluoranthene <sup>c</sup>	0		-	-	na	1.8E-01	-	-	na	1.8E-01	-	-	-	na	1.8E-01	-	na
Benzo (k) fluoranthene <sup>c</sup>	0		-	-	na	1.8E-01	-	-	na	1.8E-01	-	-	-	na	1.8E-01	-	na
Benzo (a) pyrene <sup>c</sup>	0		-	-	na	1.8E-01	-	-	na	1.8E-01	-	-	-	na	1.8E-01	-	na
Bis(2-Chloroethyl) Ether <sup>c</sup>	0		-	-	na	5.3E+00	-	-	na	5.3E+00	-	-	-	na	5.3E+00	-	na
Bis(2-Chloroisopropyl) Ether <sup>c</sup>	0		-	-	na	6.5E+04	-	-	na	6.5E+04	-	-	-	na	6.5E+04	-	na
Bis(2-Ethylhexyl) Phthalate <sup>c</sup>	0		-	-	na	2.2E+01	-	-	na	2.2E+01	-	-	-	na	2.2E+01	-	na
Bromoform <sup>c</sup>	0		-	-	na	1.4E+03	-	-	na	1.4E+03	-	-	-	na	1.4E+03	-	na
Bulkybenzophthalate	0		-	-	na	1.8E+03	-	-	na	1.8E+03	-	-	-	na	1.8E+03	-	na
lirium	0		1.8E+00	6.6E-01	na	-	1.8E+00	6.6E-01	na	-	-	-	-	na	1.8E+00	6.6E-01	na
bon Tetrachloride <sup>c</sup>	0		-	-	na	1.6E+01	-	-	na	1.6E+01	-	-	-	na	1.6E+01	-	na
ordane <sup>c</sup>	0		2.4E+00	4.3E-03	na	6.1E-03	2.4E+00	4.3E-03	na	6.1E-03	-	-	-	na	2.4E+00	4.3E-03	na
onide	0		8.6E+05	2.3E+05	na	-	8.6E+05	2.3E+05	na	-	-	-	-	na	8.6E+05	2.3E+05	na
C	0		1.9E-01	1.1E+01	na	-	1.9E+01	1.1E+01	na	-	-	-	-	na	1.9E+01	1.1E+01	na
orobenzene	0		-	-	na	1.6E+03	-	-	na	1.6E+03	-	-	-	na	-	-	na

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Chlorobromomethane <sup>c</sup>	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	na
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	na
2-Chloronaphthalene	0	--	--	na	1.8E+03	--	--	na	1.8E+03	--	--	--	--	--	--	na
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	na
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	8.3E-02	4.1E-02	na
Chromium III	0	3.2E+02	4.2E+01	na	--	3.2E+02	4.2E+01	na	--	--	--	--	--	3.2E+02	4.2E+01	na
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	1.6E+01	1.1E+01	na
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	na
Chrysene <sup>c</sup>	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	na
Copper	0	7.0E+00	5.0E+00	na	--	7.0E+00	5.0E+00	na	--	--	--	--	--	7.0E+00	5.0E+00	na
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	2.2E+01	5.2E+00	na
DOC <sup>c</sup>	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	na
DOE <sup>c</sup>	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	na
DDT <sup>c</sup>	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	--	--	--	--	1.1E+00	1.0E-03	na
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	1.0E-01	na
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	1.7E-01	1.7E-01	na
Dibenz(a,h)anthracene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	na
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	na
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	na
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	na
3,3-Dichlorobenzidine <sup>c</sup>	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	na
Dichlorobromomethane <sup>c</sup>	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	na
1,2-Dichloroethane <sup>c</sup>	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	na
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	na
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	na
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	na
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
1,2-Dichloropropane <sup>c</sup>	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	na
1,3-Dichloropropene <sup>c</sup>	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	na
Dieldrin <sup>c</sup>	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	2.4E-01	5.6E-02	na
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	na
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	na
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	na
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	na
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	na
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	na
2,4-Dinitrotoluene <sup>c</sup>	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	na
Dioxin 2,3,7,8- tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	na
1,2-Diphenylhydrazine <sup>c</sup>	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	na
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	2.2E-01	5.6E-02	na
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	2.2E-01	5.6E-02	na
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	2.2E-01	5.6E-02	--
Endrin	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	na
Endrin Aldehyde	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	--	--	--	--	8.6E-02	3.6E-02	na
	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	na

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	-	-	na	2.1E+03	-	-	na	2.1E+03	-	-	-	-	-	-	-	-	-	-	na	2.1E+03
Fluoranthene	0	-	-	na	1.4E+02	-	-	na	1.4E+02	-	-	-	-	-	-	-	-	-	-	na	1.4E+02
Fluorene	0	-	-	na	5.3E+03	-	-	na	5.3E+03	-	-	-	-	-	-	-	-	-	-	na	5.3E+03
Foaming Agents	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Guthion	0	-	1.0E-02	na	-	-	1.0E-02	na	-	-	-	-	-	-	-	-	-	-	1.0E-02	na	-
Heptachlor <sup>c</sup>	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	-	-	-	-	-	-	-	-	6.2E-01	3.8E-03	na	7.9E-04
Heptachlor Epoxide <sup>c</sup>	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	-	-	-	-	-	-	-	-	5.2E-01	3.8E-03	na	3.9E-04
Hexachlorobenzene <sup>c</sup>	0	-	-	na	2.9E-03	-	-	na	2.9E-03	-	-	-	-	-	-	-	-	-	-	na	2.9E-03
Hexachlorobutadiene <sup>c</sup>	0	-	-	na	1.8E+02	-	-	na	1.8E+02	-	-	-	-	-	-	-	-	-	-	na	1.8E+02
Hexachlorocyclohexane	0	-	-	na	4.9E-02	-	-	na	4.9E-02	-	-	-	-	-	-	-	-	-	-	na	4.9E-02
Alpha-BHC <sup>c</sup>	0	-	-	na	1.7E-01	-	-	na	1.7E-01	-	-	-	-	-	-	-	-	-	-	na	1.7E-01
Beta-BHC <sup>c</sup>	0	-	-	na	1.8E+00	-	-	na	1.8E+00	-	-	-	-	-	-	-	-	-	-	na	1.8E+00
Hexachlorocyclohexane	0	9.5E-01	na	na	1.1E+03	9.5E-01	-	na	1.1E+03	-	-	-	-	-	-	-	-	9.5E-01	-	na	1.1E+03
Gamma-BHC <sup>c</sup> (Lindane)	0	-	-	na	3.3E+01	-	-	na	3.3E+01	-	-	-	-	-	-	-	-	-	-	na	3.3E+01
Hexachlorocyclopentadiene	0	-	-	na	2.0E+00	-	2.0E+00	na	-	-	-	-	-	-	-	-	-	-	-	na	2.0E+00
Hexachloroethane <sup>c</sup>	0	-	2.0E+00	na	1.8E-01	-	-	na	1.8E-01	-	-	-	-	-	-	-	-	-	-	na	1.8E-01
Hydrogen Sulfide	0	-	-	na	9.6E+03	-	-	na	9.6E+03	-	-	-	-	-	-	-	-	-	-	na	9.6E+03
Indeno (1,2,3-cd) pyrene <sup>c</sup>	0	-	-	na	0.0E+00	-	0.0E+00	na	-	-	-	-	-	-	-	-	-	-	-	na	0.0E+00
Iron	0	-	-	na	4.9E+01	-	4.9E+01	na	-	-	-	-	-	-	-	-	-	-	-	na	4.9E+01
Isophorone <sup>c</sup>	0	-	-	na	5.6E+00	-	5.6E+00	na	-	-	-	-	-	-	-	-	-	-	-	na	5.6E+00
Kepone	0	-	1.0E-01	na	1.0E-01	-	1.0E-01	na	-	-	-	-	-	-	-	-	-	-	-	na	1.0E-01
Lead	0	4.9E+01	5.6E+00	na	1.4E+00	4.9E+01	5.6E+00	na	1.4E+00	-	-	-	-	-	-	-	-	-	-	na	1.4E+00
Malathion	0	-	-	na	7.7E-01	-	7.7E-01	na	-	-	-	-	-	-	-	-	-	-	-	na	7.7E-01
Manganese	0	-	-	na	1.5E+03	-	-	na	1.5E+03	-	-	-	-	-	-	-	-	-	-	na	1.5E+03
Mercury	0	-	-	na	5.9E+03	-	-	na	5.9E+03	-	-	-	-	-	-	-	-	-	-	na	5.9E+03
Methyl Bromide	0	-	3.0E-02	na	-	-	3.0E-02	na	-	-	-	-	-	-	-	-	-	-	-	na	3.0E-02
Methylene Chloride <sup>c</sup>	0	-	0.0E+00	na	1.0E+02	-	0.0E+00	na	1.0E+02	-	-	-	-	-	-	-	-	-	-	na	1.0E+02
Methoxychlor	0	-	-	na	4.6E+03	-	-	na	4.6E+03	-	-	-	-	-	-	-	-	-	-	na	4.6E+03
Mirax	0	1.0E+02	1.1E+01	na	6.9E+02	-	-	na	6.9E+02	-	-	-	-	-	-	-	-	-	-	na	6.9E+02
Nickel	0	-	-	na	3.0E+01	-	-	na	3.0E+01	-	-	-	-	-	-	-	-	-	-	na	3.0E+01
Nitrate (as N)	0	-	-	na	6.0E+01	-	-	na	6.0E+01	-	-	-	-	-	-	-	-	-	-	na	6.0E+01
Nitrobenzene	0	-	-	na	5.1E+00	-	-	na	5.1E+00	-	-	-	-	-	-	-	-	-	-	na	5.1E+00
N-Nitrosodimethylamine <sup>c</sup>	0	2.8E+01	6.6E+00	-	-	2.8E+01	6.6E+00	-	-	-	-	-	-	-	-	-	-	-	-	na	6.6E+00
N-Nitrosodiphenylamine <sup>c</sup>	0	6.5E-02	1.3E-02	na	-	6.5E-02	1.3E-02	na	-	-	-	-	-	-	-	-	-	-	-	na	1.3E-02
N-Nitrosodiphenylamine <sup>c</sup>	0	-	1.4E-02	na	6.4E-04	-	1.4E-02	na	6.4E-04	-	-	-	-	-	-	-	-	-	-	na	1.4E-02
N-Nitrosodi-n-propylamine <sup>c</sup>	0	4.3E+00	3.3E+00	na	3.0E+01	4.3E+00	3.3E+00	na	3.0E+01	-	-	-	-	-	-	-	-	-	-	na	3.3E+00
Nonylphenol	0	-	-	na	8.6E+05	-	-	na	8.6E+05	-	-	-	-	-	-	-	-	-	-	na	8.6E+05
Parathion	0	-	-	na	4.0E+03	-	-	na	4.0E+03	-	-	-	-	-	-	-	-	-	-	na	4.0E+03
PCB Total <sup>c</sup>	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Pentachlorophenol <sup>c</sup>	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Phenol	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Pyrene	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Radionuclides	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Gross Alpha Activity (pCi/L)	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Beta and Photon Activity (mem/y)	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Radium 226 + 228 (pCi/L)	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Uranium (ug/l)	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-



Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	-	-	-	-	2.0E+01	5.0E+00	na
Silver	0	1.0E+00	-	na	-	1.0E+00	-	na	-	-	-	-	-	1.0E+00	-	na
Sulfate	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	na
1,1,2,2-Tetrachloroethane <sup>c</sup>	0	-	-	na	4.0E+01	-	-	na	4.0E+01	-	-	-	-	-	-	na
Tetrachloroethylene <sup>c</sup>	0	-	-	na	3.3E+01	-	-	na	3.3E+01	-	-	-	-	-	-	na
Thallium	0	-	-	na	4.7E-01	-	-	na	4.7E-01	-	-	-	-	-	-	na
Toluene	0	-	-	na	6.0E+03	-	-	na	6.0E+03	-	-	-	-	-	-	na
Total dissolved solids	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	na
Toxaphene <sup>c</sup>	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	-	-	-	-	7.3E-01	2.0E-04	na
Tributyltin	0	4.6E-01	7.2E-02	na	-	4.6E-01	7.2E-02	na	-	-	-	-	-	4.6E-01	7.2E-02	na
1,2,4-Trichlorobenzene	0	-	-	na	7.0E+01	-	-	na	7.0E+01	-	-	-	-	-	-	na
1,1,2-Trichloroethane <sup>c</sup>	0	-	-	na	1.6E+02	-	-	na	1.6E+02	-	-	-	-	-	-	na
Trichloroethylene <sup>c</sup>	0	-	-	na	3.0E+02	-	-	na	3.0E+02	-	-	-	-	-	-	na
2,4,6-Trichlorophenol <sup>c</sup>	0	-	-	na	2.4E+01	-	-	na	2.4E+01	-	-	-	-	-	-	na
2-(2,4,5-Trichlorophenoxy)propionic acid (Silvex)	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	na
Vinyl Chloride <sup>c</sup>	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	na
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	6.5E+01	6.6E+01	na	2.6E+04	-	-	-	-	6.5E+01	6.6E+01	na

Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.  
Antidegradation WLAs are based upon a complete mix.
- Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic  
= (0.1(WQC - background conc.) + background conc.) for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	3.9E-01
Chromium III	2.5E+01
Chromium VI	6.4E+00
Copper	2.8E+00
Iron	na
Lead	3.4E+00
Manganese	na
Mercury	4.6E-01
Nickel	6.8E+00
Selenium	3.0E+00
Silver	4.2E-01
Zinc	2.6E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

DMR QA/QC

Permit #: VA0087891	Facility: Evergreen Country Club
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Rec'd	Parameter Description	QTY AVG	Lim Avg	QTY MAX	Lim Max	Quantity Unit Lim	CONC MIN	Lim Min	CONC AVG	Lim Avg	CONC MAX	Lim Max
11-Aug-2008	PH	NULL	*****	NULL	*****	NULL	6.4	6.0	NULL	*****	7.4	9.0
10-Sep-2008	PH	NULL	*****	NULL	*****	NULL	6.4	6.0	NULL	*****	7.7	9.0
14-Oct-2008	PH	NULL	*****	NULL	*****	NULL	6.6	6.0	NULL	*****	7.5	9.0
12-Nov-2008	PH	NULL	*****	NULL	*****	NULL	7	6.0	NULL	*****	8	9.0
11-Dec-2008	PH	NULL	*****	NULL	*****	NULL	6.8	6.0	NULL	*****	7.9	9.0
12-Jan-2009	PH	NULL	*****	NULL	*****	NULL	6.4	6.0	NULL	*****	8.1	9.0
12-Feb-2009	PH	NULL	*****	NULL	*****	NULL	6.3	6.0	NULL	*****	7.9	9.0
12-Mar-2009	PH	NULL	*****	NULL	*****	NULL	7.3	6.0	NULL	*****	8	9.0
13-Apr-2009	PH	NULL	*****	NULL	*****	NULL	7.1	6.0	NULL	*****	8.3	9.0
11-May-2009	PH	NULL	*****	NULL	*****	NULL	7	6.0	NULL	*****	8.1	9.0
10-Jun-2009	PH	NULL	*****	NULL	*****	NULL	6.7	6.0	NULL	*****	8.2	9.0
10-Jul-2009	PH	NULL	*****	NULL	*****	NULL	7.1	6.0	NULL	*****	8.3	9.0
11-Aug-2009	PH	NULL	*****	NULL	*****	NULL	7.6	6.0	NULL	*****	8.3	9.0
11-Sep-2009	PH	NULL	*****	NULL	*****	NULL	7.4	6.0	NULL	*****	8.4	9.0
13-Oct-2009	PH	NULL	*****	NULL	*****	NULL	7.7	6.0	NULL	*****	8.5	9.0
12-Nov-2009	PH	NULL	*****	NULL	*****	NULL	7.5	6.0	NULL	*****	8.3	9.0
10-Dec-2009	PH	NULL	*****	NULL	*****	NULL	7.4	6.0	NULL	*****	8.3	9.0
11-Jan-2010	PH	NULL	*****	NULL	*****	NULL	6.9	6.0	NULL	*****	8.3	9.0
11-Feb-2010	PH	NULL	*****	NULL	*****	NULL	6.8	6.0	NULL	*****	7.7	9.0
11-Mar-2010	PH	NULL	*****	NULL	*****	NULL	6.8	6.0	NULL	*****	7.5	9.0
12-Apr-2010	PH	NULL	*****	NULL	*****	NULL	6.9	6.0	NULL	*****	7.7	9.0
11-May-2010	PH	NULL	*****	NULL	*****	NULL	7.1	6.0	NULL	*****	8	9.0
11-Jun-2010	PH	NULL	*****	NULL	*****	NULL	6.5	6.0	NULL	*****	8.1	9.0
12-Jul-2010	PH	NULL	*****	NULL	*****	NULL	6.9	6.0	NULL	*****	8.1	9.0
11-Aug-2010	PH	NULL	*****	NULL	*****	NULL	6.9	6.0	NULL	*****	8	9.0
13-Sep-2010	PH	NULL	*****	NULL	*****	NULL	6.9	6.0	NULL	*****	8	9.0
12-Oct-2010	PH	NULL	*****	NULL	*****	NULL	7.2	6.0	NULL	*****	7.9	9.0
12-Nov-2010	PH	NULL	*****	NULL	*****	NULL	6.6	6.0	NULL	*****	8	9.0
13-Dec-2010	PH	NULL	*****	NULL	*****	NULL	6.2	6.0	NULL	*****	7.8	9.0
11-Jan-2011	PH	NULL	*****	NULL	*****	NULL	6.2	6.0	NULL	*****	7.7	9.0
10-Feb-2011	PH	NULL	*****	NULL	*****	NULL	6.2	6.0	NULL	*****	7.3	9.0



Permit #: VA0087891	Facility: Evergreen Country Club
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Rec'd	Parameter Description	QTY AVG	Lim Avg	QTY MAX	Lim Max	Quantity Unit Lim	CONC MIN	Lim Min	CONC AVG	Lim Avg	CONC MAX	Lim Max
11-Aug-2008	CBOD5	0.03	0.28	0.14	0.43	KG/D	NULL	*****	1.0	10.0	5	15.0
10-Sep-2008	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
14-Oct-2008	CBOD5	0.04	0.28	0.08	0.43	KG/D	NULL	*****	4	10	7	15
12-Nov-2008	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-Dec-2008	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
12-Jan-2009	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
12-Feb-2009	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
12-Mar-2009	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
13-Apr-2009	CBOD5	0.02	0.28	0.03	0.43	KG/D	NULL	*****	3	10	5	15
11-May-2009	CBOD5	0.04	0.28	0.07	0.43	KG/D	NULL	*****	3	10	5	15
10-Jun-2009	CBOD5	0.33	0.28	0.49	0.43	KG/D	NULL	*****	13	10	18	15
10-Jul-2009	CBOD5	0.75	0.28	1.10	0.43	KG/D	NULL	*****	25	10	36	15
11-Aug-2009	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-Sep-2009	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
13-Oct-2009	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
12-Nov-2009	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
10-Dec-2009	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-Jan-2010	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-Feb-2010	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-Mar-2010	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
12-Apr-2010	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-May-2010	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-Jun-2010	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
12-Jul-2010	CBOD5	0.27	0.28	0.20	0.43	KG/D	NULL	*****	19	10	15	15
11-Aug-2010	CBOD5	0.04	0.28	0.08	0.43	KG/D	NULL	*****	5	10	9	15
13-Sep-2010	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
12-Oct-2010	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
12-Nov-2010	CBOD5	0.07	0.28	0.07	0.43	KG/D	NULL	*****	5	10	5	15
13-Dec-2010	CBOD5	0.25	0.28	0.49	0.43	KG/D	NULL	*****	15	10	29	15
11-Jan-2011	CBOD5	0.04	0.28	0.04	0.43	KG/D	NULL	*****	5	10	5	15
10-Feb-2011	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-Mar-2011	CBOD5	0.13	0.28	0.13	0.43	KG/D	NULL	*****	9	10	9	15
11-Apr-2011	CBOD5	0.04	0.28	0.04	0.43	KG/D	NULL	*****	5	10	5	15
11-May-2011	CBOD5	0.12	0.28	0.12	0.43	KG/D	NULL	*****	5	10	5	15
10-Jun-2011	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-Jul-2011	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
12-Aug-2011	CBOD5	<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15

12-Sep-2011	CBOD5		<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-Oct-2011	CBOD5		<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
14-Nov-2011	CBOD5		<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
12-Dec-2011	CBOD5		<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-Jan-2012	CBOD5		<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
10-Feb-2012	CBOD5		<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
12-Mar-2012	CBOD5		<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-Apr-2012	CBOD5		<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-May-2012	CBOD5		<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-Jun-2012	CBOD5		<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-Jul-2012	CBOD5		<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
10-Aug-2012	CBOD5		0.08	0.28	0.08	0.43	KG/D	NULL	*****	5	10	5	15
11-Sep-2012	CBOD5		<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-Oct-2012	CBOD5		<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
13-Nov-2012	CBOD5		<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-Dec-2012	CBOD5		0.13	0.28	0.27	0.43	KG/D	NULL	*****	14	10	28	15
11-Jan-2013	CBOD5		<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-Feb-2013	CBOD5		<QL	0.28	<QL	0.43	KG/D	NULL	*****	<QL	10	<QL	15
11-Aug-2008	DO		NULL	*****	NULL	*****	NULL	6.7	6.5	NULL	*****	NULL	*****
10-Sep-2008	DO		NULL	*****	NULL	*****	NULL	6.5	6.5	NULL	*****	NULL	*****
14-Oct-2008	DO		NULL	*****	NULL	*****	NULL	6.7	6.5	NULL	*****	NULL	*****
12-Nov-2008	DO		NULL	*****	NULL	*****	NULL	6.9	6.5	NULL	*****	NULL	*****
11-Dec-2008	DO		NULL	*****	NULL	*****	NULL	6.9	6.5	NULL	*****	NULL	*****
12-Jan-2009	DO		NULL	*****	NULL	*****	NULL	7.2	6.5	NULL	*****	NULL	*****
12-Feb-2009	DO		NULL	*****	NULL	*****	NULL	10.2	6.5	NULL	*****	NULL	*****
12-Mar-2009	DO		NULL	*****	NULL	*****	NULL	7.1	6.5	NULL	*****	NULL	*****
13-Apr-2009	DO		NULL	*****	NULL	*****	NULL	7.5	6.5	NULL	*****	NULL	*****
11-May-2009	DO		NULL	*****	NULL	*****	NULL	6.8	6.5	NULL	*****	NULL	*****
10-Jun-2009	DO		NULL	*****	NULL	*****	NULL	4.1	6.5	NULL	*****	NULL	*****
10-Jul-2009	DO		NULL	*****	NULL	*****	NULL	6.5	6.5	NULL	*****	NULL	*****
11-Aug-2009	DO		NULL	*****	NULL	*****	NULL	7.0	6.5	NULL	*****	NULL	*****
11-Sep-2009	DO		NULL	*****	NULL	*****	NULL	6.5	6.5	NULL	*****	NULL	*****
13-Oct-2009	DO		NULL	*****	NULL	*****	NULL	6.7	6.5	NULL	*****	NULL	*****
12-Nov-2009	DO		NULL	*****	NULL	*****	NULL	7.6	6.5	NULL	*****	NULL	*****
10-Dec-2009	DO		NULL	*****	NULL	*****	NULL	7.9	6.5	NULL	*****	NULL	*****
11-Jan-2010	DO		NULL	*****	NULL	*****	NULL	7.0	6.5	NULL	*****	NULL	*****
11-Feb-2010	DO		NULL	*****	NULL	*****	NULL	8.7	6.5	NULL	*****	NULL	*****
11-Mar-2010	DO		NULL	*****	NULL	*****	NULL	8.7	6.5	NULL	*****	NULL	*****
12-Apr-2010	DO		NULL	*****	NULL	*****	NULL	7.8	6.5	NULL	*****	NULL	*****
11-May-2010	DO		NULL	*****	NULL	*****	NULL	7.1	6.5	NULL	*****	NULL	*****
11-Jun-2010	DO		NULL	*****	NULL	*****	NULL	7.4	6.5	NULL	*****	NULL	*****
12-Jul-2010	DO		NULL	*****	NULL	*****	NULL	6.5	6.5	NULL	*****	NULL	*****
11-Aug-2010	DO		NULL	*****	NULL	*****	NULL	6.6	6.5	NULL	*****	NULL	*****

13-Sep-2010	DO		NULL	*****	NULL	*****	NULL	*****	6.5	6.5	NULL	*****	NULL	*****
12-Oct-2010	DO		NULL	*****	NULL	*****	NULL	*****	6.8	6.5	NULL	*****	NULL	*****
12-Nov-2010	DO		NULL	*****	NULL	*****	NULL	*****	6.9	6.5	NULL	*****	NULL	*****
13-Dec-2010	DO		NULL	*****	NULL	*****	NULL	*****	8.1	6.5	NULL	*****	NULL	*****
11-Jan-2011	DO		NULL	*****	NULL	*****	NULL	*****	906	6.5	NULL	*****	NULL	*****
10-Feb-2011	DO		NULL	*****	NULL	*****	NULL	*****	8.0	6.5	NULL	*****	NULL	*****
11-Mar-2011	DO		NULL	*****	NULL	*****	NULL	*****	9.9	6.5	NULL	*****	NULL	*****
11-Apr-2011	DO		NULL	*****	NULL	*****	NULL	*****	9.2	6.5	NULL	*****	NULL	*****
11-May-2011	DO		NULL	*****	NULL	*****	NULL	*****	7.2	6.5	NULL	*****	NULL	*****
10-Jun-2011	DO		NULL	*****	NULL	*****	NULL	*****	6.6	6.5	NULL	*****	NULL	*****
11-Jul-2011	DO		NULL	*****	NULL	*****	NULL	*****	6.5	6.5	NULL	*****	NULL	*****
12-Aug-2011	DO		NULL	*****	NULL	*****	NULL	*****	6.6	6.5	NULL	*****	NULL	*****
12-Sep-2011	DO		NULL	*****	NULL	*****	NULL	*****	6.5	6.5	NULL	*****	NULL	*****
11-Oct-2011	DO		NULL	*****	NULL	*****	NULL	*****	6.6	6.5	NULL	*****	NULL	*****
14-Nov-2011	DO		NULL	*****	NULL	*****	NULL	*****	6.0	6.5	NULL	*****	NULL	*****
12-Dec-2011	DO		NULL	*****	NULL	*****	NULL	*****	6.7	6.5	NULL	*****	NULL	*****
11-Jan-2012	DO		NULL	*****	NULL	*****	NULL	*****	6.5	6.5	NULL	*****	NULL	*****
10-Feb-2012	DO		NULL	*****	NULL	*****	NULL	*****	8.8	6.5	NULL	*****	NULL	*****
12-Mar-2012	DO		NULL	*****	NULL	*****	NULL	*****	7.4	6.5	NULL	*****	NULL	*****
11-Apr-2012	DO		NULL	*****	NULL	*****	NULL	*****	6.6	6.5	NULL	*****	NULL	*****
11-May-2012	DO		NULL	*****	NULL	*****	NULL	*****	6.5	6.5	NULL	*****	NULL	*****
11-Jun-2012	DO		NULL	*****	NULL	*****	NULL	*****	6.6	6.5	NULL	*****	NULL	*****
11-Jul-2012	DO		NULL	*****	NULL	*****	NULL	*****	5.5	6.5	NULL	*****	NULL	*****
10-Aug-2012	DO		NULL	*****	NULL	*****	NULL	*****	6.8	6.5	NULL	*****	NULL	*****
11-Sep-2012	DO		NULL	*****	NULL	*****	NULL	*****	6.6	6.5	NULL	*****	NULL	*****
11-Oct-2012	DO		NULL	*****	NULL	*****	NULL	*****	6.9	6.5	NULL	*****	NULL	*****
13-Nov-2012	DO		NULL	*****	NULL	*****	NULL	*****	6.8	6.5	NULL	*****	NULL	*****
11-Dec-2012	DO		NULL	*****	NULL	*****	NULL	*****	9.1	6.5	NULL	*****	NULL	*****
11-Jan-2013	DO		NULL	*****	NULL	*****	NULL	*****	8.9	6.5	NULL	*****	NULL	*****
11-Feb-2013	DO		NULL	*****	NULL	*****	NULL	*****	9.5	6.5	NULL	*****	NULL	*****
11-Aug-2008	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	21	*****	235	*****
10-Sep-2008	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	5	*****	126	*****
14-Oct-2008	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	15	*****	126	*****
12-Nov-2008	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	2	*****	126	*****
11-Dec-2008	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	2	*****	126	*****
12-Jan-2009	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	*****	126	*****
12-Feb-2009	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	*****	126	*****
12-Mar-2009	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	*****	126	*****
13-Apr-2009	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	25	*****	126	*****
11-May-2009	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	8	*****	126	*****
10-Jun-2009	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	37	*****	126	*****
10-Jul-2009	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	367	*****	126	*****
11-Aug-2009	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	13	*****	126	*****

11-Sep-2009	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	126	NULL	*****
13-Oct-2009	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	126	NULL	*****
12-Nov-2009	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	126	NULL	*****
10-Dec-2009	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	126	NULL	*****
11-Jan-2010	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	32	126	NULL	*****
11-Feb-2010	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	126	NULL	*****
11-Mar-2010	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	4	126	NULL	*****
12-Apr-2010	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	2	126	NULL	*****
11-May-2010	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	126	NULL	*****
11-Jun-2010	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	2	126	NULL	*****
12-Jul-2010	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	81	126	NULL	*****
11-Aug-2010	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	126	NULL	*****
13-Sep-2010	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	3	126	NULL	*****
12-Oct-2010	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	126	NULL	*****
12-Nov-2010	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	13	126	NULL	*****
13-Dec-2010	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	5	126	NULL	*****
11-Jan-2011	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	2	126	NULL	*****
10-Feb-2011	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	126	NULL	*****
11-Mar-2011	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	24	126	NULL	*****
11-Apr-2011	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	126	NULL	*****
11-May-2011	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	2	126	NULL	*****
10-Jun-2011	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	49	126	NULL	*****
11-Jul-2011	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	99	126	NULL	*****
12-Aug-2011	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	13	126	NULL	*****
12-Sep-2011	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	126	NULL	*****
11-Oct-2011	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	8	126	NULL	*****
14-Nov-2011	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	83	126	NULL	*****
12-Dec-2011	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	2	126	NULL	*****
11-Jan-2012	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	126	NULL	*****
10-Feb-2012	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	3	126	NULL	*****
12-Mar-2012	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	4	126	NULL	*****
11-Apr-2012	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	126	NULL	*****
11-May-2012	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	126	NULL	*****
11-Jun-2012	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	3	126	NULL	*****
11-Jul-2012	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	5	126	NULL	*****
10-Aug-2012	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	23	126	NULL	*****
11-Sep-2012	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	126	NULL	*****
11-Oct-2012	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	3	126	NULL	*****
13-Nov-2012	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	126	NULL	*****
11-Dec-2012	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	2	126	NULL	*****
11-Jan-2013	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	126	NULL	*****
11-Feb-2013	E.COLI		NULL	*****	NULL	*****	NULL	*****	NULL	*****	1	126	NULL	*****
11-Aug-2008	FLOW		0.0057	0.0075	.0088	NL	MGD	*****	NULL	*****	NULL	*****	NULL	*****







11-Apr-2012	FLOW		0.0043	0.0075	0.0112	NL	MGD	NULL	*****	NULL	*****	NULL	*****
11-May-2012	FLOW		0.0042	0.0075	0.0077	NL	MGD	NULL	*****	NULL	*****	NULL	*****
11-Jun-2012	FLOW		0.0051	0.0075	0.0116	NL	MGD	NULL	*****	NULL	*****	NULL	*****
11-Jul-2012	FLOW		0.0060	0.0075	0.0108	NL	MGD	NULL	*****	NULL	*****	NULL	*****
10-Aug-2012	FLOW		0.0062	0.0075	0.0125	NL	MGD	NULL	*****	NULL	*****	NULL	*****
11-Sep-2012	FLOW		0.0054	0.0075	0.0121	NL	MGD	NULL	*****	NULL	*****	NULL	*****
11-Oct-2012	FLOW		0.0042	0.0075	0.0071	NL	MGD	NULL	*****	NULL	*****	NULL	*****
13-Nov-2012	FLOW		0.0045	0.0075	0.0090	NL	MGD	NULL	*****	NULL	*****	NULL	*****
11-Dec-2012	FLOW		0.0042	0.0075	0.0067	NL	MGD	NULL	*****	NULL	*****	NULL	*****
11-Jan-2013	FLOW		0.0036	0.0075	0.0055	NL	MGD	NULL	*****	NULL	*****	NULL	*****
11-Feb-2013	FLOW		0.0036	0.0075	0.0063	NL	MGD	NULL	*****	NULL	*****	NULL	*****
11-Aug-2008	TKN (N-KJEL)		0.05	0.14	0.06	0.21	KG/D	NULL	*****	2.3	5.0	3.6	7.5
10-Sep-2008	TKN (N-KJEL)		0.03	0.14	0.03	0.21	KG/D	NULL	*****	1.7	5.0	2.0	7.5
14-Oct-2008	TKN (N-KJEL)		0.05	0.14	0.07	0.21	KG/D	NULL	*****	3.8	5.0	5.9	7.5
12-Nov-2008	TKN (N-KJEL)		0.02	0.14	0.02	0.21	KG/D	NULL	*****	2.1	5.0	2.2	7.5
11-Dec-2008	TKN (N-KJEL)		0.01	0.14	0.02	0.21	KG/D	NULL	*****	1.2	5.0	1.3	7.5
12-Jan-2009	TKN (N-KJEL)		0.03	0.14	0.05	0.21	KG/D	NULL	*****	2.1	5.0	2.4	7.5
12-Feb-2009	TKN (N-KJEL)		0.02	0.14	0.02	0.21	KG/D	NULL	*****	1.4	5.0	1.7	7.5
12-Mar-2009	TKN (N-KJEL)		0.02	0.14	0.02	0.21	KG/D	NULL	*****	1.2	5.0	1.3	7.5
13-Apr-2009	TKN (N-KJEL)		0.02	0.14	0.02	0.21	KG/D	NULL	*****	2.4	5.0	3.1	7.5
11-May-2009	TKN (N-KJEL)		0.06	0.14	0.09	0.21	KG/D	NULL	*****	4.1	5.0	5.4	7.5
10-Jun-2009	TKN (N-KJEL)		0.17	0.14	0.23	0.21	KG/D	NULL	*****	6.9	5.0	8.6	7.5
10-Jul-2009	TKN (N-KJEL)		0.30	0.14	0.47	0.21	KG/D	NULL	*****	9.9	5.0	15.3	7.5
11-Aug-2009	TKN (N-KJEL)		0.04	0.14	0.04	0.21	KG/D	NULL	*****	2.6	5.0	2.6	7.5
11-Sep-2009	TKN (N-KJEL)		0.03	0.14	0.03	0.21	KG/D	NULL	*****	1.8	5.0	1.8	7.5
13-Oct-2009	TKN (N-KJEL)		<QL	0.14	<QL	0.21	KG/D	NULL	*****	<QL	5.0	<QL	7.5
12-Nov-2009	TKN (N-KJEL)		0.04	0.14	0.04	0.21	KG/D	NULL	*****	3.2	5.0	3.2	7.5
10-Dec-2009	TKN (N-KJEL)		0.02	0.14	0.02	0.21	KG/D	NULL	*****	1.6	5.0	1.6	7.5
11-Jan-2010	TKN (N-KJEL)		0.07	0.14	0.07	0.21	KG/D	NULL	*****	2.8	5.0	2.8	7.5
11-Feb-2010	TKN (N-KJEL)		0.03	0.14	0.03	0.21	KG/D	NULL	*****	2.0	5.0	2.0	7.5
11-Mar-2010	TKN (N-KJEL)		0.02	0.14	0.02	0.21	KG/D	NULL	*****	1.1	5.0	1.1	7.5
12-Apr-2010	TKN (N-KJEL)		0.03	0.14	0.03	0.21	KG/D	NULL	*****	1.6	5.0	1.6	7.5
11-May-2010	TKN (N-KJEL)		0.04	0.14	0.04	0.21	KG/D	NULL	*****	2.2	5.0	2.2	7.5
11-Jun-2010	TKN (N-KJEL)		0.03	0.14	0.03	0.21	KG/D	NULL	*****	2.7	5.0	2.7	7.5
12-Jul-2010	TKN (N-KJEL)		0.14	0.14	0.13	0.21	KG/D	NULL	*****	9.3	5.0	7.4	7.5
11-Aug-2010	TKN (N-KJEL)		0.06	0.14	0.07	0.21	KG/D	NULL	*****	5.6	5.0	8.1	7.5
13-Sep-2010	TKN (N-KJEL)		0.06	0.14	0.06	0.21	KG/D	NULL	*****	3.4	5.0	3.4	7.5
12-Oct-2010	TKN (N-KJEL)		0.04	0.14	0.04	0.21	KG/D	NULL	*****	2.1	5.0	2.1	7.5
12-Nov-2010	TKN (N-KJEL)		0.07	0.14	0.07	0.21	KG/D	NULL	*****	4.9	5.0	4.9	7.5
13-Dec-2010	TKN (N-KJEL)		0.04	0.14	0.04	0.21	KG/D	NULL	*****	2.5	5.0	2.5	7.5
11-Jan-2011	TKN (N-KJEL)		0.02	0.14	0.02	0.21	KG/D	NULL	*****	2.0	5.0	2.0	7.5
10-Feb-2011	TKN (N-KJEL)		0.01	0.14	0.01	0.21	KG/D	NULL	*****	1.3	5.0	1.3	7.5
11-Mar-2011	TKN (N-KJEL)		0.02	0.14	0.02	0.21	KG/D	NULL	*****	1.6	5.0	1.6	7.5

11-Apr-2011	TKN (N-KJEL)		0.03	0.14	0.03	0.21	KG/D		NULL		3.7	5.0	3.7	7.5
11-May-2011	TKN (N-KJEL)		0.09	0.14	0.09	0.21	KG/D		NULL		3.9	5.0	3.9	7.5
10-Jun-2011	TKN (N-KJEL)		0.06	0.14	0.06	0.21	KG/D		NULL		2.3	5.0	2.3	7.5
11-Jul-2011	TKN (N-KJEL)		0.04	0.14	0.04	0.21	KG/D		NULL		2.3	5.0	2.3	7.5
12-Aug-2011	TKN (N-KJEL)		0.05	0.14	0.05	0.21	KG/D		NULL		2.0	5.0	2.0	7.5
12-Sep-2011	TKN (N-KJEL)		0.06	0.14	0.06	0.21	KG/D		NULL		2.7	5.0	2.7	7.5
11-Oct-2011	TKN (N-KJEL)		0.01	0.14	0.01	0.21	KG/D		NULL		0.6	5.0	0.6	7.5
14-Nov-2011	TKN (N-KJEL)		0.07	0.14	0.07	0.21	KG/D		NULL		2.0	5.0	2.0	7.5
12-Dec-2011	TKN (N-KJEL)		0.02	0.14	0.02	0.21	KG/D		NULL		1.2	5.0	1.2	7.5
11-Jan-2012	TKN (N-KJEL)		0.02	0.14	0.02	0.21	KG/D		NULL		1.9	5.0	1.9	7.5
10-Feb-2012	TKN (N-KJEL)		0.01	0.14	0.01	0.21	KG/D		NULL		0.5	5.0	0.5	7.5
12-Mar-2012	TKN (N-KJEL)		0.03	0.14	0.03	0.21	KG/D		NULL		1.5	5.0	1.5	7.5
11-Apr-2012	TKN (N-KJEL)		0.01	0.14	0.01	0.21	KG/D		NULL		1.0	5.0	1.0	7.5
11-May-2012	TKN (N-KJEL)		0.02	0.14	0.02	0.21	KG/D		NULL		1.3	5.0	1.3	7.5
11-Jun-2012	TKN (N-KJEL)		0.03	0.14	0.03	0.21	KG/D		NULL		1.6	5.0	1.6	7.5
11-Jul-2012	TKN (N-KJEL)		0.02	0.14	0.02	0.21	KG/D		NULL		1.3	5.0	1.3	7.5
10-Aug-2012	TKN (N-KJEL)		0.01	0.14	0.01	0.21	KG/D		NULL		0.8	5.0	0.8	7.5
11-Sep-2012	TKN (N-KJEL)		0.01	0.14	0.01	0.21	KG/D		NULL		0.9	5.0	0.9	7.5
11-Oct-2012	TKN (N-KJEL)		0.03	0.14	0.03	0.21	KG/D		NULL		1.7	5.0	1.7	7.5
13-Nov-2012	TKN (N-KJEL)		0.02	0.14	0.02	0.21	KG/D		NULL		2.2	5.0	2.2	7.5
11-Dec-2012	TKN (N-KJEL)		0.01	0.14	0.01	0.21	KG/D		NULL		0.9	5.0	0.9	7.5
11-Jan-2013	TKN (N-KJEL)		0.01	0.14	0.01	0.21	KG/D		NULL		1.1	5.0	1.1	7.5
11-Feb-2013	TKN (N-KJEL)		0.01	0.14	0.01	0.21	KG/D		NULL		0.7	5.0	0.7	7.5
11-Aug-2008	TSS		0.12	0.43	0.14	0.62	KG/D		NULL		5.1	15.0	5.9	22.0
10-Sep-2008	TSS		0.09	0.42	0.14	0.62	KG/D		NULL		5	15	9	22
14-Oct-2008	TSS		0.15	0.42	0.17	0.62	KG/D		NULL		10	15	15	22
12-Nov-2008	TSS		0.07	0.42	0.07	0.62	KG/D		NULL		7	15	7	22
11-Dec-2008	TSS		0.03	0.42	0.04	0.62	KG/D		NULL		3	15	4	22
12-Jan-2009	TSS		0.09	0.42	0.11	0.62	KG/D		NULL		6	15	7	22
12-Feb-2009	TSS		0.07	0.42	0.07	0.62	KG/D		NULL		6	15	7	22
12-Mar-2009	TSS		0.03	0.42	0.03	0.62	KG/D		NULL		2	15	3	22
13-Apr-2009	TSS		0.03	0.42	0.03	0.62	KG/D		NULL		4	15	5	22
11-May-2009	TSS		0.11	0.42	0.14	0.62	KG/D		NULL		7	15	9	22
10-Jun-2009	TSS		0.75	0.42	1.12	0.62	KG/D		NULL		30	15	41	22
10-Jul-2009	TSS		1.32	0.42	2.17	0.62	KG/D		NULL		43	15	71	22
11-Aug-2009	TSS		0.10	0.42	0.10	0.62	KG/D		NULL		6	15	6	22
11-Sep-2009	TSS		0.13	0.42	0.13	0.62	KG/D		NULL		7	15	7	22
13-Oct-2009	TSS		<QL	0.42	<QL	0.62	KG/D		NULL		<QL	15	<QL	22
12-Nov-2009	TSS		0.07	0.42	0.07	0.62	KG/D		NULL		5	15	5	22
10-Dec-2009	TSS		0.09	0.42	0.09	0.62	KG/D		NULL		6	15	6	22
11-Jan-2010	TSS		0.35	0.42	0.35	0.62	KG/D		NULL		14	15	14	22
11-Feb-2010	TSS		0.08	0.42	0.08	0.62	KG/D		NULL		5	15	5	22
11-Mar-2010	TSS		0.07	0.42	0.07	0.62	KG/D		NULL		4	15	4	22

12-Apr-2010	TSS		0.07	0.42	0.07	0.62	KG/D	NULL		5	15	5	22
11-May-2010	TSS		0.10	0.42	0.10	0.62	KG/D	NULL		6	15	6	22
11-Jun-2010	TSS		0.10	0.42	0.10	0.62	KG/D	NULL		8	15	8	22
12-Jul-2010	TSS		0.42	0.42	0.69	0.62	KG/D	NULL		27	15	38	22
11-Aug-2010	TSS		0.16	0.42	0.27	0.62	KG/D	NULL		15	15	30	22
13-Sep-2010	TSS		0.15	0.42	0.15	0.62	KG/D	NULL		8	15	8	22
12-Oct-2010	TSS		0.14	0.42	0.14	0.62	KG/D	NULL		7	15	7	22
12-Nov-2010	TSS		0.09	0.42	0.09	0.62	KG/D	NULL		6	15	6	22
13-Dec-2010	TSS		<QL	0.42	<QL	0.62	KG/D	NULL		<QL	15	<QL	22
11-Jan-2011	TSS		<QL	0.42	<QL	0.62	KG/D	NULL		<QL	15	<QL	22
10-Feb-2011	TSS		0.02	0.42	0.02	0.62	KG/D	NULL		2	15	2	22
11-Mar-2011	TSS		0.10	0.42	0.10	0.62	KG/D	NULL		7	15	7	22
11-Apr-2011	TSS		0.02	0.42	0.02	0.62	KG/D	NULL		3	15	3	22
11-May-2011	TSS		0.33	0.42	0.33	0.62	KG/D	NULL		14	15	14	22
10-Jun-2011	TSS		0.22	0.42	0.22	0.62	KG/D	NULL		9	15	9	22
11-Jul-2011	TSS		0.15	0.42	0.15	0.62	KG/D	NULL		8	15	8	22
12-Aug-2011	TSS		0.13	0.42	0.13	0.62	KG/D	NULL		6	15	6	22
12-Sep-2011	TSS		0.04	0.42	0.04	0.62	KG/D	NULL		2	15	2	22
11-Oct-2011	TSS		0.12	0.42	0.12	0.62	KG/D	NULL		5	15	5	22
14-Nov-2011	TSS		0.40	0.42	0.40	0.62	KG/D	NULL		12	15	12	22
12-Dec-2011	TSS		0.06	0.42	0.06	0.62	KG/D	NULL		4	15	4	22
11-Jan-2012	TSS		0.06	0.42	0.06	0.62	KG/D	NULL		6	15	6	22
10-Feb-2012	TSS		0.04	0.42	0.04	0.62	KG/D	NULL		3	15	3	22
12-Mar-2012	TSS		0.20	0.42	0.20	0.62	KG/D	NULL		9	15	9	22
11-Apr-2012	TSS		0.09	0.42	0.09	0.62	KG/D	NULL		6	15	6	22
11-May-2012	TSS		0.04	0.42	0.04	0.62	KG/D	NULL		3	15	3	22
11-Jun-2012	TSS		0.02	0.42	0.02	0.62	KG/D	NULL		1	15	1	22
11-Jul-2012	TSS		0.05	0.42	0.05	0.62	KG/D	NULL		3	15	3	22
10-Aug-2012	TSS		0.02	0.42	0.02	0.62	KG/D	NULL		1	15	1	22
11-Sep-2012	TSS		0.01	0.42	0.01	0.62	KG/D	NULL		1	15	1	22
11-Oct-2012	TSS		0.14	0.42	0.14	0.62	KG/D	NULL		7	15	7	22
13-Nov-2012	TSS		0.04	0.42	0.04	0.62	KG/D	NULL		4	15	4	22
11-Dec-2012	TSS		0.01	0.42	0.01	0.62	KG/D	NULL		1	15	1	22
11-Jan-2013	TSS		0.01	0.42	0.01	0.62	KG/D	NULL		1	15	1	22
11-Feb-2013	TSS		0.03	0.42	0.03	0.62	KG/D	NULL		3	15	3	22

4/11/2013 10:32:13 AM

Facility = Evergreen Country Club  
Chemical = Ammonia  
Chronic averaging period = 30  
WLAa = 19.9  
WLAc = 2.22  
Q.L. = 0.2  
# samples/mo. = 1  
# samples/wk. = 1

Summary of Statistics:

# observations = 1  
Expected Value = 9  
Variance = 29.16  
C.V. = 0.6  
97th percentile daily values = 21.9007  
97th percentile 4 day average = 14.9741  
97th percentile 30 day average = 10.8544  
# < Q.L. = 0  
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity  
Maximum Daily Limit = 4.47922760738421  
Average Weekly limit = 4.47922760738421  
Average Monthly Limit = 4.47922760738421

The data are:

SUBJECT: Stream Model - Evergreen Country Club Wastewater  
Treatment Plant, VPDES Permit Application No. VANRO0065JD

TO: Dale Phillips, OWRM

FROM: Jennie Dollard, NRO *JD*

DATE: July 29, 1992

COPIES:

OWRM comments on the referenced stream model and proposed effluent limitations are requested. The proposed effluent limitations are:

Flow = 7500 gpd  
CBOD<sub>5</sub> = 10 mg/l avg/ 15 mg/l max  
TSS = 15 mg/l avg/ 22 mg/l max  
TKN = 5 mg/l avg/ 7.5 mg/l max  
NH<sub>3</sub>-N = 2.1 mg/l avg/ 2.1 mg/l max  
D.O. = 6.5 mg/l minimum  
pH = 6.0 - 9.0 S.U.  
TRC = ND at 001; 1.0 mg/l minimum after chlorine contact

The Evergreen Country Club WWTP discharges into a ditch and then into an unnamed tributary of Chestnut Lick. The receiving stream flows into a large pond (est. volume > 2 million gallons) approximately 0.34 mile downstream of the discharge ditch. The 7Q10 of the receiving stream was estimated as 0.0 gpd due to the small drainage area at the point of discharge.

The NH<sub>3</sub>-N limitation is based on the water quality standards. Receiving stream pH and temperature measurements taken 7-22-92 were 7.4 S.U. and 20.4°C. The permit application presented analytical results for one effluent sample. The effluent pH was reported as 6.6 S.U. The chronic ammonia water quality standard at 20°C and a pH range of 6.5 - 7.5 is 2.53 mg/l NH<sub>3</sub>. The effluent limitation (monthly average and maximum) was set equal to the calculated chronic wasteload allocation.

The TKN limitation was established as the sum of the ammonia-nitrogen limit (approx. 2 mg/l) and a refractory organic concentration of 3 mg/l. Phosphorus limitations were considered, but are not proposed for the permit due to the small size of the discharge.

The CBOD<sub>5</sub> and Dissolved Oxygen limitations are based on the stream model. These limits minimize the drop in dissolved oxygen within the stream segment. TSS limitations are based on best professional opinion.

## REGIONAL MODELING SYSTEM

VERSION 3.2

## DATA FILE SUMMARY

\*\*\*\*\*

THE NAME OF THE DATA FILE IS: EVRGREEN.MOD

THE STREAM NAME IS: Chestnut Lick  
THE RIVER BASIN IS: Potomac River  
THE SECTION NUMBER IS: 7a  
THE CLASSIFICATION IS: IIII

STANDARDS VIOLATED (Y/N) = N  
STANDARDS APPROPRIATE (Y/N) = Y

DISCHARGE WITHIN 3 MILES (Y/N) = N

THE DISCHARGE BEING MODELED IS: Evergreen Country Club

## PROPOSED LIMITS ARE:

FLOW = .0075 MGD  
BOD5 = 10 MG/L  
TKN = 5 MG/L  
D.O. = 6.5 MG/L

THE NUMBER OF SEGMENTS TO BE MODELED = 2

7Q10 WILL BE CALCULATED BY: DRAINAGE AREA COMPARISON

THE GAUGE NAME IS: USGS # 12345

GAUGE DRAINAGE AREA = 1 SQ.MI.

GAUGE 7Q10 = 0 MGD

DRAINAGE AREA AT DISCHARGE = 2 SQ.MI.

STREAM A DRY DITCH AT DISCHARGE (Y/N) = Y

ANTIDEGRADATION APPLIES (Y/N) = N

ALLOCATION DESIGN TEMPERATURE = 20 °C

# REGIONAL MODELING SYSTEM VERSION 3.2

MODEL SIMULATION FOR THE Evergreen Country Club DISCHARGE  
TO Chestnut Lick

THE SIMULATION STARTS AT THE Evergreen Country Club DISCHARGE

## PROPOSED PERMIT LIMITS

FLOW = .0075 MGD    cBOD5 = 10 Mg/L    TKN = 5 Mg/L    D.O. = 6.5 Mg/L

\*\*\*\* THE MAXIMUM CHLORINE ALLOWABLE IN THE DISCHARGE IS 0.011 Mg/L \*\*\*\*

THE SECTION BEING MODELED IS BROKEN INTO 2 SEGMENTS  
RESULTS WILL BE GIVEN AT 0.1 MILE INTERVALS

## BACKGROUND CONDITIONS

THE 7Q10 STREAM FLOW AT THE DISCHARGE IS 0.00000 MGD  
THE DISSOLVED OXYGEN OF THE STREAM IS 8.066 Mg/L  
THE BACKGROUND cBOD<sub>u</sub> OF THE STREAM IS 5 Mg/L  
THE BACKGROUND nBOD OF THE STREAM IS 0 Mg/L

## MODEL PARAMETERS

SEG.	LEN. Mi	VEL. F/S	K2 1/D	K1 1/D	KN 1/D	BENTHIC Mg/L	ELEV. Ft	TEMP. °C	DO-SAT Mg/L
1	0.02	0.486	20.000	1.400	0.400	0.000	422.50	20.00	8.962
2	0.34	0.389	14.118	1.400	0.500	0.000	416.00	20.00	8.964

(The K Rates shown are at 20°C ... the model corrects them for temperature.)

\*\*\*\*\*

## RESPONSE FOR SEGMENT

\*\*\*\*\*

TOTAL STREAMFLOW = 0.0075 MGD  
(Including Discharge)

DISTANCE FROM HEAD OF SEGMENT (MI.)	TOTAL DISTANCE FROM MODEL BEGINNING (MI.)	DISSOLVED OXYGEN (Mg/L)	cBODu (Mg/L)	nBODu (Mg/L)
0.000	0.000	6.500	25.000	8.660
0.020	0.020	6.527	24.912	8.651

FOR THE TRIBUTARY AT THE END OF SEGMENT 1

FLOW = 0 MGD    cBOD5 = 2 Mg/L    TKN = 0 Mg/L    D.O. = 8.0659 Mg/L

FLOW FROM INCREMENTAL DRAINAGE AREA = 0.0000 MGD



\*\*\*\*\*

## RESPONSE FOR SEGMENT

\*\*\*\*\*

TOTAL STREAMFLOW = 0.0075 MGD

(Including Discharge, Tributaries and Incremental D.A. Flow)

DISTANCE FROM HEAD OF SEGMENT (MI.)	TOTAL DISTANCE FROM MODEL BEGINNING (MI.)	DISSOLVED OXYGEN (Mg/L)	cBODu (Mg/L)	nBODu (Mg/L)
0.000	0.020	6.527	24.912	8.651
0.100	0.120	6.465	24.371	8.584
0.200	0.220	6.427	23.841	8.517
0.300	0.320	6.407	23.323	8.450
0.340	0.360	6.403	23.119	8.424

 $\Delta DO = 0.097$ 

\*\*\*\*\*

REGIONAL MODELING SYSTEM

Ver 3.2

(OWRM - 9/90)

07-29-1992 10:16:12

DATA FILE = EVRGREEN.MOD

## DATA FILE SUMMARY

THE NAME OF THE DATA FILE IS: EVRGREEN.MOD

THE STREAM NAME IS: Chestnut Lick  
THE RIVER BASIN IS: Potomac River  
THE SECTION NUMBER IS: 7a  
THE CLASSIFICATION IS: IIII

STANDARDS VIOLATED (Y/N) = N  
STANDARDS APPROPRIATE (Y/N) = Y

DISCHARGE WITHIN 3 MILES (Y/N) = N

THE DISCHARGE BEING MODELED IS: Evergreen Country Club

## PROPOSED LIMITS ARE:

FLOW = .0075 MGD  
BOD5 = 10 MG/L  
TKN = 5 MG/L  
D.O. = 6.5 MG/L

THE NUMBER OF SEGMENTS TO BE MODELED = 2

7Q10 WILL BE CALCULATED BY: DRAINAGE AREA COMPARISON

THE GAUGE NAME IS: USGS # 12345  
GAUGE DRAINAGE AREA = 1 SQ.MI.  
GAUGE 7Q10 = 0 MGD  
DRAINAGE AREA AT DISCHARGE = 2 SQ.MI.

STREAM A DRY DITCH AT DISCHARGE (Y/N) = Y  
ANTIDEGRADATION APPLIES (Y/N) = N

ALLOCATION DESIGN TEMPERATURE = 20 °C

SEGMENT INFORMATION

##### SEGMENT # 1 #####

SEGMENT ENDS BECAUSE: A TRIBUTARY ENTERS AT END

SEGMENT LENGTH = .02 MI

SEGMENT WIDTH = .69 FT  
SEGMENT DEPTH = .085 FT  
SEGMENT VELOCITY = .2 FT/SEC

DRAINAGE AREA AT SEGMENT START = .1 SQ.MI.  
DRAINAGE AREA AT SEGMENT END = .12 SQ.MI.

ELEVATION AT UPSTREAM END = 425 FT  
ELEVATION AT DOWNSTREAM END = 420 FT

THE CROSS SECTION IS: RECTANGULAR  
THE CHANNEL IS: MOSTLY STRAIGHT

POOLS AND RIFFLES (Y/N) = N

THE BOTTOM TYPE = SILT  
SLUDGE DEPOSITS = NONE  
AQUATIC PLANTS = NONE  
ALGAE OBSERVED = NONE  
WATER COLORED GREEN (Y/N) = N

TRIBUTARY DATA

FLOW = 0 MGD  
BOD5 = 2 MG/L  
TKN = 0 MG/L  
D.O. = 8.0659 MG/L

SEGMENT INFORMATION

##### SEGMENT # 2 #####

SEGMENT ENDS BECAUSE: THE MODEL ENDS

SEGMENT LENGTH = .34 MI

SEGMENT WIDTH = .28 FT

SEGMENT DEPTH = .06 FT

SEGMENT VELOCITY = .67 FT/SEC

DRAINAGE AREA AT SEGMENT START = .12 SQ.MI.

DRAINAGE AREA AT SEGMENT END = .13 SQ.MI.

ELEVATION AT UPSTREAM END = 420 FT

ELEVATION AT DOWNSTREAM END = 412 FT

THE CROSS SECTION IS: RECTANGULAR

THE CHANNEL IS: MOSTLY STRAIGHT

POOLS AND RIFFLES (Y/N) = N

THE BOTTOM TYPE = SMALL ROCK

SLUDGE DEPOSITS = NONE

AQUATIC PLANTS = NONE

ALGAE OBSERVED = NONE

WATER COLORED GREEN (Y/N) = N

\*\*\*\*\*

REGIONAL MODELING SYSTEM

Ver 3.2 (QWRM - 9/90)

07-29-1992 10:16:51

REGIONAL MODELING SYSTEM    VERSION 4.0  
**Model Input File for the Discharge  
to CHESTNUT LICK, UT.**

**File Information**

File Name: C:\Documents and Settings\ddfrasier\Desktop\Evergreen CC.mod  
Date Modified: March 07, 2013

**Water Quality Standards Information**

Stream Name: CHESTNUT LICK, UT  
River Basin: Potomac/Shenandoah Rivers Basin  
Section: 7a  
Class: III - Nontidal Waters (Coastal and Piedmont)  
Special Standards: 9

**Background Flow Information**

Gauge Used: 01656725  
Gauge Drainage Area: 25.8 Sq.Mi.  
Gauge 7Q10 Flow: 0 MGD  
Headwater Drainage Area: 0.83 Sq.Mi.  
Headwater 7Q10 Flow: 0 MGD (Net; includes Withdrawals/Discharges)  
Withdrawal/Discharges: 0 MGD  
Incremental Flow in Segments: 0 MGD/Sq.Mi.

**Background Water Quality**

Background Temperature: 25 Degrees C  
Background cBOD5: 2 mg/l  
Background TKN: 0 mg/l  
Background D.O.: 7.390081 mg/l

**Model Segmentation**

Number of Segments: 2  
Model Start Elevation: 425 ft above MSL  
Model End Elevation: 412 ft above MSL

REGIONAL MODELING SYSTEM    VERSION 4.0  
Model Input File for the Discharge  
to CHESTNUT LICK, UT.

**Segment Information for Segment 1**

Definition Information

Segment Definition:	A discharge enters.
Discharge Name:	EVERGREEN COUNTRY CLUB
VPDES Permit No.:	

Discharger Flow Information

Flow:	0.0075 MGD
cBOD5:	10 mg/l
TKN:	5 mg/l
D.O.:	6.5 mg/l
Temperature:	25 Degrees C

Geographic Information

Segment Length:	0.02 miles
Upstream Drainage Area:	0.83 Sq.Mi.
Downstream Drainage Area:	0.85 Sq.Mi.
Upstream Elevation:	425 Ft.
Downstream Elevation:	420 Ft.

Hydraulic Information

Segment Width:	0.1 Ft.
Segment Depth:	0.208 Ft.
Segment Velocity:	0.545 Ft./Sec.
Segment Flow:	0.007 MGD
Incremental Flow:	0 MGD (Applied at end of segment.)

Channel Information

Cross Section:	Rectangular
Character:	Mostly Straight
Pool and Riffle:	No
Bottom Type:	Silt
Sludge:	None
Plants:	None
Algae:	None

REGIONAL MODELING SYSTEM    VERSION 4.0  
**Model Input File for the Discharge  
to CHESTNUT LICK, UT.**

**Segment Information for Segment 2**

Definition Information

Segment Definition:	A tributary enters.
Tributary Name:	CHESTNUT CREEK

Tributary Flow Information

Flow:	0 MGD
cBOD5:	2 mg/l
TKN:	0 mg/l
D.O.:	7.391 mg/l
Temperature:	25 Degrees C

Geographic Information

Segment Length:	0.34 miles
Upstream Drainage Area:	0.85 Sq.Mi.
Downstream Drainage Area:	0.86 Sq.Mi.
Upstream Elevation:	420 Ft.
Downstream Elevation:	412 Ft.

Hydraulic Information

Segment Width:	0.1 Ft.
Segment Depth:	0.624 Ft.
Segment Velocity:	0.116 Ft./Sec.
Segment Flow:	0.007 MGD
Incremental Flow:	0 MGD (Applied at end of segment.)

Channel Information

Cross Section:	Rectangular
Character:	Mostly Straight
Pool and Riffle:	No
Bottom Type:	Small Rock
Sludge:	None
Plants:	None
Algae:	None

"Model Run For C:\Documents and Settings\ddfrasier\Desktop\Evergreen CC.mod On  
3/7/2013 11:37:33 AM"

"Model is for CHESTNUT LICK, UT."

"Model starts at the EVERGREEN COUNTRY CLUB discharge."

"Background Data"

"7Q10"	"cBOD5"	"TKN"	"DO"	"Temp"
"(mgd)"	"(mg/l)"	"(mg/l)"	"(mg/l)"	"deg C"
0,	2,	0,	7.39,	25

"Discharge/Tributary Input Data for Segment 1"

"Flow"	"cBOD5"	"TKN"	"DO"	"Temp"
"(mgd)"	"(mg/l)"	"(mg/l)"	"(mg/l)"	"deg C"
.0075,	10,	5,	6.5,	25

"Hydraulic Information for Segment 1"

"Length"	"width"	"Depth"	"Velocity"
"(mi)"	"(ft)"	"(ft)"	"(ft/sec)"
.02,	.1,	.208,	.545

"Initial Mix values for Segment 1"

"Flow"	"DO"	"cBOD"	"nBOD"	"DOSat"	"Temp"
"(mgd)"	"(mg/l)"	"(mg/l)"	"(mg/l)"	"(mg/l)"	"deg C"
.0075,	6.5,	25,	8.66,	8.212,	25

"Rate Constants for Segment 1. - (All units Per Day)"

"k1"	"k1@T"	"k2"	"k2@T"	"kn"	"kn@T"	"BD"	"BD@T"
1.4,	1.761,	20,	22.518,	.4,	.588,	0,	0

"Output for Segment 1"

"Segment starts at EVERGREEN COUNTRY CLUB"

"Total"	"Segm."	"Dist."	"Dist."	"DO"	"cBOD"	"nBOD"
"(mi)"	"(mi)"	"(mg/l)"	"(mg/l)"	"(mg/l)"	"(mg/l)"	"(mg/l)"
0,	0,	6.5,	25,	8.66		
.02,	.02,	6.477,	24.901,	8.649		

"Discharge/Tributary Input Data for Segment 2"

"Flow"	"cBOD5"	"TKN"	"DO"	"Temp"
"(mgd)"	"(mg/l)"	"(mg/l)"	"(mg/l)"	"deg C"
0,	2,	0,	7.391,	25

"Incremental Flow Input Data for Segment 2"

"Flow"	"cBOD5"	"TKN"	"DO"	"Temp"
"(mgd)"	"(mg/l)"	"(mg/l)"	"(mg/l)"	"deg C"
0,	2,	0,	7.392,	25

"Hydraulic Information for Segment 2"

"Length"	"width"	"Depth"	"Velocity"
"(mi)"	"(ft)"	"(ft)"	"(ft/sec)"
.34,	.1,	.624,	.116

"Initial Mix values for Segment 2"

"Flow"	"DO"	"cBOD"	"nBOD"	"DOSat"	"Temp"
"(mgd)"	"(mg/l)"	"(mg/l)"	"(mg/l)"	"(mg/l)"	"deg C"
.0075,	6.477,	24.901,	8.649,	8.214,	25

"Rate Constants for Segment 2. - (All units Per Day)"

"k1"	"k1@T"	"k2"	"k2@T"	"kn"	"kn@T"	"BD"	"BD@T"



.9, 1.132, 14.118, 15.895, .3, modout.txt .441, 0, 0

"Output for Segment 2"

"Segment starts at CHESTNUT CREEK"

"Total",	"Segm."	"DO",	"CBOD",	"nBOD"
"Dist.",	"Dist.",	"(mg/l)",	"(mg/l)",	"(mg/l)"
"(mi)",	"(mi)",	"(mg/l)",	"(mg/l)",	"(mg/l)"
.02,	0,	6.477,	24.901,	8.649
.12,	.1,	6.355,	23.459,	8.45
.22,	.2,	6.362,	22.101,	8.256
.32,	.3,	6.421,	20.821,	8.066
.36,	.34,	6.451,	20.33,	7.991

$\Delta = 0.049$

"END OF FILE"

SAGr = 0.145

Public Notice – Environmental Permit

**PURPOSE OF NOTICE:** To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated wastewater into a water body in Prince William County, Virginia.

**PUBLIC COMMENT PERIOD:** May 23, 2013 to June 21, 2013

**PERMIT NAME:** Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board

**APPLICANT NAME, ADDRESS AND PERMIT NUMBER:** Evergreen Country Club  
P.O. Box 176, Haymarket, VA 22069  
VA0087891

**NAME AND ADDRESS OF FACILITY:** Evergreen Country Club  
East side of SR 600, approximately 1.5 miles south of SR 701  
Haymarket, VA

**PROJECT DESCRIPTION:** Evergreen Country Club has applied for a reissuance of a permit for the private Evergreen Country Club. The applicant proposes to release treated sewage wastewaters from a private country club at a rate of 0.0075 million gallons per day into a water body. Sludge from the treatment process will be hauled to the Upper Occoquan Service Authority (VA0024988) for further treatment and disposal. The facility proposes to release the treated sewage in the Chestnut Lick, UT, in Prince William County in the Potomac River watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH, cBOD, total suspended solids, dissolved oxygen, total kjeldahl nitrogen and E. coli.

**HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING:** DEQ accepts comments and requests for public hearing by hand-delivery, email, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

**CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION:** The public may review the draft permit and application at the DEQ-Northern Regional Office by appointment or may request electronic copies of the draft permit and fact sheet.

Name: Douglas Frasier  
Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193  
Phone: 703-583-3873 Email: Douglas.Frasier@deq.virginia.gov Fax: 703-583-3821



**RECEIVED**

MAR 3 2008

DEPT. OF ENVIRONMENTAL  
QUALITY-NRO

**COMMONWEALTH of VIRGINIA**

**DEPARTMENT OF ENVIRONMENTAL QUALITY**

L. Preston Bryant, Jr.  
Secretary of Natural Resources

NORTHERN VIRGINIA REGIONAL OFFICE  
13901 Crown Court, Woodbridge, Virginia 22193  
(703) 583-3800 Fax (703) 583-3801  
www.deq.virginia.gov

David K. Paylor  
Director

~~Jeffery A. Steers~~  
Regional Director

**STATE WATER CONTROL BOARD ENFORCEMENT ACTION**

**AMENDMENT TO**

**A SPECIAL ORDER BY CONSENT**

**ISSUED TO**

**EVERGREEN COUNTRY CLUB, INC**

**FOR THE**

**EVERGREEN COUNTRY CLUB SEWAGE TREATMENT PLANT**

**(VPDES Permit No. VA0087891)**

**SECTION A: Purpose**

This is an Amendment to a Consent Special Order issued under the authority of Va. Code §§62.1-44.15 (8a) and (8d) and 10.1-1185, between the State Water Control Board and Evergreen Country Club, Inc. ("Evergreen") regarding the Evergreen Country Club Sewage Treatment Plant, for the purpose of revising provisions of the Order issued by the State Water Control Board to Evergreen on October 8, 2002.

**SECTION B: Basis for Amendment**

1. Evergreen Country Club, Inc. owns the Evergreen Country Club STP which is operated by Environmental Systems Service ("ESS") and located in Prince William County, Virginia. The Board issued a Consent Special Order to Evergreen on October 8, 2002 ("2002 Order") to resolve violations of the State Water Control Law and Regulations including Permit limit exceedences of TSS, TKN, DO, chlorine, and CBOD5.

2. The Order required Evergreen, among other things, to design and construct a new STP and complete it within 18 months of beginning construction. Construction on the new STP began on April 10, 2005 yielding a required completion date, October 10, 2006.
3. The Order also required Evergreen to submit a closure plan for the existing STP within 30 days of beginning construction (i.e. May 10, 2005). DEQ did not receive the closure plan until November 28, 2005.
4. DEQ received correspondence from ESS dated September 29, 2006 which provided a new completion date for the STP as November 15, 2006 due to delays caused by lack of adequate electrical service from the Northern Virginia Electrical Company (NOVEC).
5. DEQ staff conducted a site visit on January 31, 2007. Dave Anderson, the Golf Course Superintendent, informed DEQ that while the new STP was still not online, the electrical issues with NOVEC had been resolved and that the STP should be online by the end of February 2007.
6. DEQ received no additional communication from Evergreen until February 20, 2007 when Anderson advised DEQ that the electrical work had to be delayed due to an outdated easement. Evergreen then provided completion dates of the week of March 30, 2007 and then the week of April 9, 2007. Neither of these completion dates were met as evident during a site inspection conducted by DEQ staff on April 11, 2007.
7. DEQ and Evergreen representatives met on May 23, 2007 and Evergreen explained that the current delay was caused by necessary rewiring of the new STP that had to be undertaken due to a design flaw. They expected the new STP to be online by June 1, 2007. This information was memorialized in a letter Evergreen submitted to DEQ on May 29, 2007.
8. Bryan Dolieslager, Evergreen's General Manager, contacted DEQ on June 5, 2007 to advise that it had run into additional complications including problems with both the STP pumps and blowers and that he was unable to provide a completion date. Mr. Dolieslager also contacted DEQ on July 17, 2007 advising of additional complications delaying the start-up of the STP.
9. DEQ received a letter from Evergreen's engineer, Waste Water Management, Inc., on July 23, 2007 requesting approval to place the STP in service. This request was verbally approved by DEQ Office of Wastewater Engineering on July 25, 2007.
10. Evergreen placed the new STP in service on July 30, 2007. During this initial period, Evergreen experienced various control system failures resulting in the discharge of effluent that failed to meet permitted effluent limits. As a result, beginning on August 31, 2007, Evergreen utilized pump and haul of the effluent and ceased discharging until equipment failures could be corrected.

11. Evergreen remained on pump and haul until it began discharging again on October 28, 2007. On November 5, 2007, Evergreen's operator discovered that the UV system had backed up due to a failing air control valve resulting in the loss of solids from the treatment plant into the receiving stream. Evergreen again initiated pump and haul of the effluent.
12. Evergreen began discharging from the STP in late November 2007 and was unable to meet permitted effluent limits, therefore, pump and haul was initiated until corrections could be made. In addition to the permit limit exceedances, DEQ learned through documentation attached to the November DMR received December 11, 2007, that the filtration unit was being bypassed beginning on November 28, 2007. Per the Permit, Part II, Section U, DEQ shall be notified within 24 hours of any unanticipated bypass. Evergreen failed to provide notification to DEQ of the bypass within this timeframe.
13. Due to the foregoing, the Board has evidence that Evergreen has violated its Permit, the 2002 Consent Order, and Va. Code § 62.1-44.5 which prohibits the discharge of sewage or any noxious or deleterious substances into state waters except in compliance with a Permit issued by the Board. These violations have been noted in the following Notices of Violation ("NOV") issued by DEQ:
  - NOV No. W2007-02-N-0006, dated February 9, 2007 citing a violation of the 2002 Order by failing to complete construction and close the old STP within the timeframe specified and a violation of the Permit for exceeding the weekly and monthly concentration average maximum limit for CBOD and the monthly concentration average limit for TKN as reported on the December 2006 DMR;
  - NOV No. W2007-03-N-0004, dated March 9, 2007 citing a violation of the 2002 Order for failing to complete construction and close the old STP within the timeframe specified;
  - NOV No. W2007-04-N-0002, dated April 12, 2007 citing a violation of the 2002 Order by failing to complete construction and close the old STP within the timeframe specified and a violation of the Permit for exceeding the monthly concentration average maximum limit for CBOD as reported on the February 2007 DMR;
  - NOV No. W2007-05-N-0002, dated May 11, 2007 citing a violation of the 2002 Order by failing to complete construction and close the old STP within the timeframe specified;
  - NOV No. W2007-06-N-0004, dated June 5, 2007 citing a violation of the 2002 Order by failing to complete construction and close the old STP within the timeframe specified;

- NOV No. W2007-07-N-0004, dated July 11, 2007 citing a violation of the 2002 Order by failing to complete construction and close the old STP within the timeframe specified and a violation of the Permit for failing to meet the instantaneous minimum limit for chlorine as reported on the May 2007 DMR;
  - NOV No. W2007-08-N-0007, dated August 10, 2007 citing a violation of the 2002 Order by failing to complete construction and close the old STP within the timeframe specified;
  - NOV No. W2007-09-N-0013, dated September 6, 2007 citing a violation of the 2002 Order by failing to complete construction and close the old STP within the timeframe specified and a violation of the Permit for exceeding the monthly concentration average limit for TSS and CBOD as reported on the July 2007 DMR;
  - NOV No. W2007-10-N-0003, dated October 3, 2007 citing a violation of the Permit for exceeding the weekly concentration maximum limit for E. Coli and the monthly concentration average limit for TSS as reported on the August 2007 DMR;
  - NOV No. W2007-11-N-0008, dated November 2, 2007 citing a violation of the 2002 Order by failing to complete construction and close the old STP within the timeframe specified;
  - NOV No. W2007-12-N-0009, dated December 6, 2007 citing a violation of the Permit for exceeding the monthly concentration average limit for TKN and CBOD and also the weekly concentration average maximum limit for E. Coli as reported on the October 2007 DMR;
  - NOV No. W2008-01-N-0002, dated January 9, 2008 citing a violation of the Permit for exceeding the monthly and weekly concentration average maximum limit for TKN, the weekly concentration average maximum limit for E. Coli, failing to submit a revised Operations and Maintenance Manual within 90 days of any changes, failing to submit a permit application at least 180 days prior to the expiration date of the existing permit, failing to notify DEQ of a bypass event, and a violation of the 2002 Consent Order for failing to close the old STP within the timeframe specified.
14. Evergreen has since submitted an updated Operations and Maintenance Manual that DEQ is reviewing. Evergreen is also currently working on the Permit application for submittal and continues to utilize pump and haul while design and construction deficiencies at the new STP are addressed.

**SECTION C: Agreement and Order**

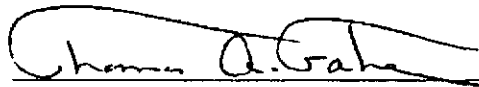
Accordingly, the Board, by virtue of its authority granted in Va. Code §§62.1-44.15(8a) and (8d), orders Evergreen Country Club, Inc., and Evergreen Country Club, Inc. agrees to:

1. Perform the actions described in Appendix A of this Amended Order, which supersedes and cancels Appendix A and Appendix B of the 2002 Order. Both the State Water Control Board and Evergreen understand and agree that this Amendment does not alter, modify, or amend any other provision of the Order and that unmodified provisions of the Order remain in effect by their own terms.
2. Pay a civil charge of \$28,250.00 within 30 days of the effective date of this Amendment in the settlement of the violations cited in this Amendment. Payment shall be made by check payable to the "Treasurer of Virginia", delivered to:

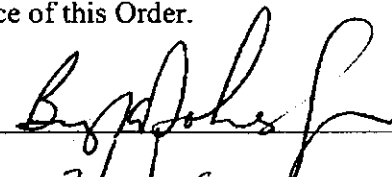
Receipts Control  
Department of Environmental Quality  
Post Office Box 1104  
Richmond, Virginia 23218

Either on a transmittal letter or as a notation on the check, Evergreen shall indicate that this payment is submitted pursuant to this Order and shall include the Federal Identification Number for Evergreen.

And it is so ORDERED this 29 day of July, 2008.

  
Thomas A. Faha, Regional Director  
Northern Department of Environmental Quality

Evergreen Country Club voluntarily agrees to the issuance of this Order.

By:   
Date: 3/1/08

Commonwealth of Virginia  
City/County of Prince William

The foregoing document was signed and acknowledged before me this 18 day of March, 2008, by Bryan K. Drieslager who is  
( name )

## APPENDIX A

Evergreen Country Club, Inc. agrees to:

1. Complete and submit to DEQ for review and approval by August 1, 2008, an assessment of the STP completed by a licensed engineer to determine the condition of and needed repairs of the STP including an evaluation of any discrepancies that may exist between the DEQ approved plans and specifications and the STP as built. The assessment shall include recommendations and a schedule for the repairs or upgrades that need to be made to the STP. Said schedule shall not exceed November 30, 2008 and upon approval by DEQ shall become an enforceable part of this Order.
2. By August 1, 2008, submit a written request for a Final Certificate to Operate (CTO) from DEQ for the new STP.
3. By April 30, 2008, complete construction of adequate fencing to protect the new STP electrical control components to ensure continuous reliability in compliance with 9 VAC 25-790-470(E)(4a).
4. By March 31, 2008, complete insulation of the new STP.
5. By August 31, 2008, close the existing STP in accordance with the approved closure plan.
6. Beginning March 1, 2008 and lasting for the life of this Order, increase E.Coli monitoring from once per month (1/M) to once per week (1/W). In addition, increase monitoring for CBOD, TKN, and TSS from once per month (1/M) to twice a month (2/M). Said sampling shall be reported on the applicable Discharge Monitoring Report.
7. Continue to have a licensed operator with at least a Class III wastewater treatment plant operator license perform daily routine maintenance a minimum of one hour each day at the STP.





# *COMMONWEALTH of VIRGINIA*

## *DEPARTMENT OF ENVIRONMENTAL QUALITY*

### NORTHERN REGIONAL OFFICE

13901 Crown Court, Woodbridge, Virginia 22193

(703) 583-3800 Fax (703) 583-3821

[www.deq.virginia.gov](http://www.deq.virginia.gov)

Douglas W. Domenech  
Secretary of Natural Resources

David K. Paylor  
Director

## **STATE WATER CONTROL BOARD ENFORCEMENT ACTION - ORDER BY CONSENT ISSUED TO**

**EVERGREEN COUNTRY CLUB, INC.**

**FOR**

**EVERGREEN COUNTRY CLUB SEWAGE TREATMENT PLANT**

**VPDES Permit No. VA0087891**

### **SECTION A: Purpose**

This is a Consent Order issued under the authority of Va. Code § 62.1-44.15, between the State Water Control Board and Evergreen Country Club, Inc., regarding the Evergreen Country Club Sewage Treatment Plant for the purpose of resolving certain violations of the State Water Control Law and the applicable permit and regulation.

### **SECTION B: Definitions**

Unless the context clearly indicates otherwise, the following words and terms have the meaning assigned to them below:

1. "Board" means the State Water Control Board, a permanent citizens' board of the Commonwealth of Virginia, as described in Va. Code §§ 10.1-1184 and 62.1-44.7.
2. "Department" or "DEQ" means the Department of Environmental Quality, an agency of the Commonwealth of Virginia, as described in Va. Code § 10.1-1183.
3. "Director" means the Director of the Department of Environmental Quality, as described in Va. Code § 10.1-1185.

4. "DMR" means Discharge Monitoring Report.
5. "Evergreen" means the Evergreen Country Club, Inc., a corporation authorized to do business in Virginia and its affiliates, partners, subsidiaries, and parents. Evergreen Country Club, Inc. is a "person" within the meaning of Va. Code § 62.1-44.3.
6. "Facility" or "Plant" means the Evergreen Country Club Sewage Treatment Plant located at the East side of State Road (SR) 600, approximately 1.5 miles south of SR 701 in Haymarket Virginia, which treats and discharges treated sewage and other municipal wastes, for the Evergreen Country Club located in Prince William County, Virginia.
7. "Notice of Violation" or "NOV" means a type of Notice of Alleged Violation under Va. Code § 62.1-44.15.
8. "NRO" means the Northern Regional Office of DEQ, located in Woodbridge, Virginia.
9. "O&M" means operations and maintenance.
10. "Order" means this document, also known as a "Consent Order" or "Order by Consent," a type of Special Order under the State Water Control Law.
11. "Permit" means VPDES Permit No. VA0087891, which was issued under the State Water Control Law and the Regulation to Evergreen Country Club, Inc. on June 24, 2008 and which expires on June 23, 2013.
12. "Pollutant" means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 USC § 2011 *et seq.*)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water... 9 VAC 25-31-10.
13. "Pollution" means such alteration of the physical, chemical, or biological properties of any state waters as will or is likely to create a nuisance or render such waters (a) harmful or detrimental or injurious to the public health, safety, or welfare or to the health of animals, fish, or aquatic life; (b) unsuitable with reasonable treatment for use as present or possible future sources of public water supply; or (c) unsuitable for recreational, commercial, industrial, agricultural, or other reasonable uses, provided that (i) an alteration of the physical, chemical, or biological property of state waters or a discharge or deposit of sewage, industrial wastes or other wastes to state waters by any owner which by itself is not sufficient to cause pollution but which, in combination with such alteration of or discharge or deposit to state waters by other owners, is sufficient to cause pollution; (ii) the discharge of untreated sewage by any owner into state waters; and (iii) contributing to the contravention of standards of water quality duly established by the Board, are "pollution." Va. Code § 62.1-44.3.

14. "Regulation" means the VPDES Permit Regulation, 9 VAC 25-31-10 *et seq.*
15. "State Water Control Law" means Chapter 3.1 (§ 62.1-44.2 *et seq.*) of Title 62.1 of the Va. Code.
16. "State waters" means all water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands. Va. Code § 62.1-44.3.
17. "Va. Code" means the Code of Virginia (1950), as amended.
18. "VAC" means the Virginia Administrative Code.
19. "VPDES" means Virginia Pollutant Discharge Elimination System.
20. "Warning Letter" or "WL" means a type of Notice of Alleged Violation under Va. Code § 62.1-44.15.

#### **SECTION C: Findings of Fact and Conclusions of Law**

1. Evergreen owns and operates the Plant in Haymarket, Virginia. The Permit allows Evergreen to discharge treated sewage and other municipal wastes from the Plant to an unnamed tributary of Chestnut Lick in strict compliance with the terms and conditions of the Permit.
2. Chestnut Lick is located in the Potomac River Basin. Chestnut Lick is a tributary of Bull Run which is listed in DEQ's 305(b) report as impaired for *E. coli* from unknown sources.
3. In submitting its DMRs, as required by the Permit, Evergreen has indicated that it exceeded discharge limitations contained in Part I.A.1 of the Permit, for Total Kjeldahl Nitrogen (TKN), total suspended solids (TSS), and carbonaceous Biochemical Oxygen Demand-5 day (cBOD5), for the months of May and June 2009, for *E. coli* in June 2009 and failed to meet the minimum requirement for dissolved oxygen (DO) for May 2009. Evergreen indicated that it believes the exceedances were related to increased flow to the Plant due to Inflow and Infiltration (I&I) from precipitation and possible increased activity at the country club. These factors increased the flow causing hydraulic overloading at the Facility. This combined with a malfunction of a decanter limit switch, which led to one of two Sequencing Batch Reactor (SBR) units being inoperable; caused the discharge of sewage sludge to the unnamed tributary and Chestnut Lick as well as contributing to poor performance of the Plant's tertiary filter.

4. DEQ conducted a compliance inspection of the Facility on June 2, 2009, and observed sludge in the unnamed tributary and Chestnut Lick.
5. DEQ issued a Warning Letter for the TKN, TSS, CBOD<sub>5</sub> and DO exceedances, WL No. W2009-07-N-1014 issued to Evergreen on July 14, 2009.
6. DEQ issued a Notice of Violation for the discharge of sewage sludge in the unnamed tributary receiving stream and Chestnut Run, NOV No. W2009-07-N-0013 issued to Evergreen on July 31, 2009.
7. DEQ issued a Notice of Violation for the TKN, TSS, CBOD<sub>5</sub> and E. coli exceedances, NOV No. W2009-08-N-0010 issued to Evergreen on August 26, 2009.
8. On September 23, 2009, representatives of Evergreen along with the Plant's contract operator, Environmental Systems Service, LTD. (ESS), met with DEQ to discuss the violations. At the meeting, ESS presented DEQ with a plan of corrective actions to address the Permit exceedances, the problems with the tertiary filter and the hydraulic overloading due to Inflow and Infiltration (I&I) occurring at the Plant. The proposed plan is incorporated in Appendix A of the Order.
9. Va. Code § 62.1-44.5 states that: "[E]xcept in compliance with a certificate issued by the Board, it shall be unlawful for any person to discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances."
10. The Regulation, at 9 VAC 25-31-50, also states that except in compliance with a VPDES permit, or another permit issued by the Board, it is unlawful to discharge into state waters sewage, industrial wastes or other wastes.
11. Va. Code § 62.1-44.15(5a) states that a VPDES permit is a "certificate" under the statute.
12. The Department has issued no permits or certificates to Evergreen other than VPDES Permit No. VA0087891.
13. The unnamed tributary of Chestnut Lick and Chestnut Lick itself are surface waters located wholly within the Commonwealth and are "state waters" under State Water Control Law.
14. Based on the results of the May and June 2009 Discharge Monitoring Reports, the June 2, 2009 inspection, and the September 23, 2009 meeting, the Board concludes that Evergreen has violated the Permit, Va. Code § 62.1-44.5, and 9 VAC 25-31-50, by discharging treated sewage and municipal wastes from the Plant while concurrently failing to comply with the conditions of the Permit, as described in paragraphs C(3) through C(7), above.

15. In order for Evergreen to complete its return to compliance, DEQ staff and representatives of Evergreen have agreed to the Schedule of Compliance, which is incorporated as Appendix A of this Order.

#### **SECTION D: Agreement and Order**

Accordingly, by virtue of the authority granted it in Va. Code §§ 62.1-44.15, the Board orders Evergreen Country Club, Inc., and Evergreen Country Club, Inc. agrees to:

1. Perform the actions described in Appendix A of this Order; and
2. Pay a civil charge of \$7,500.00 within 30 days of the effective date of the Order in settlement of the violations cited in this Order.

Payment shall be made by check, certified check, money order or cashier's check payable to the "Treasurer of Virginia," and delivered to:

Receipts Control  
Department of Environmental Quality  
Post Office Box 1104  
Richmond, Virginia 23218

Evergreen Country Club, Inc. shall include its Federal Employer Identification Number (FEIN) with the civil charge payment and shall indicate that the payment is being made in accordance with the requirements of this Order for deposit into the Virginia Environmental Emergency Response Fund (VEERF).

#### **SECTION E: Administrative Provisions**

1. The Board may modify, rewrite, or amend this Order with the consent of Evergreen Country Club, Inc. for good cause shown by Evergreen Country Club, Inc., or on its own motion pursuant to the Administrative Process Act, Va. Code § 2.2-4000 *et seq.*, after notice and opportunity to be heard.
2. This Order addresses and resolves only those violations specifically identified in Section C of this Order. This Order shall not preclude the Board or the Director from taking any action authorized by law, including but not limited to: (1) taking any action authorized by law regarding any additional, subsequent, or subsequently discovered violations; (2) seeking subsequent remediation of the Facility; or (3) taking subsequent action to enforce the Order.

3. For purposes of this Order and subsequent actions with respect to this Order only, Evergreen Country Club, Inc. admits the jurisdictional allegations, findings of fact, and conclusions of law contained herein.
4. Evergreen Country Club, Inc. consents to venue in the Circuit Court of the City of Richmond for any civil action taken to enforce the terms of this Order.
5. Evergreen Country Club, Inc. declares it has received fair and due process under the Administrative Process Act and the State Water Control Law and it waives the right to any hearing or other administrative proceeding authorized or required by law or regulation, and to any judicial review of any issue of fact or law contained herein. Nothing herein shall be construed as a waiver of the right to any administrative proceeding for, or to judicial review of, any action taken by the Board to modify, rewrite, amend, or enforce this Order.
6. Failure by Evergreen Country Club, Inc. to comply with any of the terms of this Order shall constitute a violation of an order of the Board. Nothing herein shall waive the initiation of appropriate enforcement actions or the issuance of additional orders as appropriate by the Board or the Director as a result of such violations. Nothing herein shall affect appropriate enforcement actions by any other federal, state, or local regulatory authority.
7. If any provision of this Order is found to be unenforceable for any reason, the remainder of the Order shall remain in full force and effect.
8. Evergreen Country Club, Inc. shall be responsible for failure to comply with any of the terms and conditions of this Order unless compliance is made impossible by earthquake, flood, other acts of God, war, strike, or such other occurrence. Evergreen Country Club, Inc. shall show that such circumstances were beyond its control and not due to a lack of good faith or diligence on its part. Evergreen Country Club, Inc. shall notify the DEQ Regional Director verbally within 24 hours and in writing within three business days when circumstances are anticipated to occur, are occurring, or have occurred that may delay compliance or cause noncompliance with any requirement of the Order. Such notice shall set forth:
  - a. the reasons for the delay or noncompliance;
  - b. the projected duration of any such delay or noncompliance;
  - c. the measures taken and to be taken to prevent or minimize such delay or noncompliance; and
  - d. the timetable by which such measures will be implemented and the date full compliance will be achieved.

Failure to so notify the Regional Director verbally within 24 hours and in writing within three business days, of learning of any condition above, which Evergreen Country Club, Inc. intends to assert will result in the impossibility of compliance, shall constitute a waiver of any claim to inability to comply with a requirement of this Order.

9. This Order is binding on the parties hereto, their successors in interest, designees and assigns, jointly and severally.
10. This Order shall become effective upon execution by both the Director or his designee and Evergreen Country Club, Inc. Nevertheless, Evergreen Country Club, Inc. agrees to be bound by any compliance date which precedes the effective date of this Order.
11. This Order shall continue in effect until:
  - a. Evergreen Country Club, Inc. petitions the Director or his designee to terminate the Order after it has completed all of the requirements of the Order and the Director or his designee approves the termination of the Order; or
  - b. the Director or Board terminates the Order in his or its sole discretion upon 30 days' written notice to Evergreen Country Club, Inc..

Termination of this Order, or any obligation imposed in this Order, shall not operate to relieve Evergreen Country Club, Inc. from its obligation to comply with any statute, regulation, permit condition, other order, certificate, certification, standard, or requirement otherwise applicable.

12. Any plans, reports, schedules or specifications attached hereto or submitted by Evergreen Country Club, Inc. and approved by the Department pursuant to this Order are incorporated into this Order. Any non-compliance with such approved documents shall be considered a violation of this Order.
13. The undersigned representative of Evergreen Country Club, Inc. certifies that he or she is a responsible official authorized to enter into the terms and conditions of this Order and to execute and legally bind Evergreen Country Club, Inc. to this document. Any documents to be submitted pursuant to this Order shall also be submitted by a responsible official of Evergreen Country Club, Inc.
14. This Order constitutes the entire agreement and understanding of the parties concerning settlement of the violations identified in Section C of this Order, and there are no representations, warranties, covenants, terms or conditions agreed upon between the parties other than those expressed in this Order.
15. By its signature below, Evergreen Country Club, Inc. voluntarily agrees to the issuance of this Order.

And it is so ORDERED this 22<sup>nd</sup> day of June, 2010.

A handwritten signature in black ink, appearing to read "Thomas A. Faha", written over a horizontal line.

Thomas A. Faha, Regional Director  
Department of Environmental Quality



Evergreen Country Club, Inc. voluntarily agrees to the issuance of this Order.

Date: 2/15/10 By: Bryan K. Pollock General Manager  
(Person) (Title)  
Evergreen Country Club, Inc.

Commonwealth of Virginia

City/County of Prince William

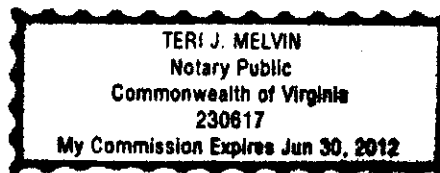
The foregoing document was signed and acknowledged before me this 16<sup>th</sup> day of February, 2010, by Bryan K. Pollock who is General Manager of Evergreen Country Club, Inc., on behalf of the corporation.

Teri J. Melvin  
Notary Public

230617  
Registration No.

My commission expires: 6/30/2012

Notary seal:



## **APPENDIX A SCHEDULE OF COMPLIANCE**

Evergreen Country Club, Inc. shall:

1. By March 1, 2010, submit to DEQ for its review and approval, a report of Evergreen's system-wide evaluation of the collection system and the Plant which determines the cause(s) of the I&I and hydraulic overloading issues at the Plant. Said evaluation report shall contain a plan and schedule of work for collection system repairs/upgrades and the installation of a sufficiently-sized flow equalization (EQ) tank for the system. Once approved by DEQ, the plan and schedule of work shall become an enforceable part of this Order
2. By March 1, 2010, submit to DEQ for its review and approval, a plan and schedule for the modification and/or replacement of the tertiary filter. Once approved by DEQ, the plan and schedule of work shall become an enforceable part of this Order.
3. By March 1, 2010, submit to DEQ for review and approval a template of a daily O&M check-sheet for use by the operator and monthly submittal with the DMR submissions for the Facility.

Unless otherwise specified in this Order, Evergreen Country Club, Inc. shall submit all requirements of Appendix A of this Order to:

Virginia Department of Environmental Quality  
Attn: Enforcement Staff  
13901 Crown Court  
Woodbridge, VA 22193

***State "Transmittal Checklist" to Assist in Targeting  
Municipal and Industrial Individual NPDES Draft Permits for Review***

**Part I. State Draft Permit Submission Checklist**

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: Evergreen Country Club  
 NPDES Permit Number: VA0087891  
 Permit Writer Name: Douglas Frasier  
 Date: 26 March 2013

Major [ ]

Minor [X]

Industrial [ ]

Municipal [X]

**I.A. Draft Permit Package Submittal Includes:**

	Yes	No	N/A
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?		X	
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?	X		
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?			X

**I.B. Permit/ Facility Characteristics**

	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet or permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet or permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water? <b>DOWNSTREAM</b>		X	
a. Has a TMDL been developed and approved by EPA for the impaired water?	X		
<b>DOWNSTREAM</b> b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			X
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water? <b>DOWNSTREAM</b>	X		
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?		X	

<b>I.B. Permit/Facility Characteristics – cont.</b>			
	<b>Yes</b>	<b>No</b>	<b>N/A</b>
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?	X		
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?	X		
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?	X		
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

## Part II. NPDES Draft Permit Checklist

### Region III NPDES Permit Quality Checklist – for POTWs (To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?			X

II.C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for <u>ALL</u> of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	X		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	X		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD <sub>5</sub> and TSS for a 30-day average and 45 mg/l BOD <sub>5</sub> and TSS for a 7-day average)?		X	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?	X		
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?	X		
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?			X
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?	X		

<b>II.D. Water Quality-Based Effluent Limits – cont.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the record indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?	X		

<b>II.E. Monitoring and Reporting Requirements</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?		X	
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		X	
4. Does the permit require testing for Whole Effluent Toxicity?		X	

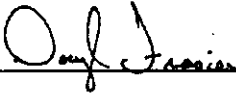
<b>II.F. Special Conditions</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
1. Does the permit include appropriate biosolids use/disposal requirements?		X	
2. Does the permit include appropriate storm water program requirements?		X	

<b>II.F. Special Conditions – cont.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			X
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		X	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		X	
a. Does the permit require implementation of the “Nine Minimum Controls”?			X
b. Does the permit require development and implementation of a “Long Term Control Plan”?			X
c. Does the permit require monitoring and reporting for CSO events?			X
7. Does the permit include appropriate Pretreatment Program requirements?			X

II.G. Standard Conditions	Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		
List of Standard Conditions – 40 CFR 122.41			
Duty to comply	Property rights	Reporting Requirements	
Duty to reapply	Duty to provide information	Planned change	
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance	
not a defense	Monitoring and records	Transfers	
Duty to mitigate	Signatory requirement	Monitoring reports	
Proper O & M	Bypass	Compliance schedules	
Permit actions	Upset	24-Hour reporting	
		Other non-compliance	
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?	X		

### Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	<u>Douglas Frasier</u>
Title	<u>VPDES Permit Writer, Senior II</u>
Signature	<u></u>
Date	<u>26 March 2013</u>